UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
TAMPA DIVISION

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MARTHA SERGI, as personal representative of the estate of Victor Sergi, deceased,

Plaintiff,

v.

R.J. REYNOLDS TOBACCO COMPANY, a foreign corporation,

Defendant.

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Original

CASE NO. 96-1687-Civ-T-26B

February 18, 1998
9:40 a.m.

Deposition of ELIZABETH M. WHELAN, M.D., taken by defendant, pursuant to notice, dated December, 31, 1997, at the offices of Jones, Day, Reavis & Pogue, 599 Lexington Avenue, New York, N.Y. 10022, before Vincent J. Bologna and Joanne Mancari, Registered Merit Reporters, Certified Shorthand Reporters and Notaries Public of the State of New York.

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ALSO PRESENT:

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ELIZABETH M. WHELAN,

called as a witness by the defendant,

having been duly sworn, testified as follows:

EXAMINATION BY

BY MR. GROSSMAN:

Q. Dr. Whelan, we mentioned just briefly a moment ago, it is good to meet you.

My name is Ted Grossman. I am a lawyer representing R.J. Reynolds Tobacco Company and I will be asking you a series of questions today.

Now, your deposition has been taken before?

A. That is correct.

Q. It has been taken in two or three tobacco cases. Has it also been taken in cases not involving tobacco?

A. I have been involved in a couple of environmental cases that never went to trial, but I have been deposed.

Q. Do you know what cases those were?

A. I don't have their names. They involved PCB contamination, as I recall.

Q. Have you ever been involved in any litigation not involving cigarettes and not

involving PCBs?

A. Not that I am aware. Not that I can recall.

Q. Well, I suppose you know the basic rules of a deposition, but let me go over some of them with you.

As I said, I will be asking you a series of questions. If you don't hear me, will you let me know?

A. Yes.

Q. And if you don't understand me, will you let me know?

A. Yes.

Q. I am not a doctor or a scientist or an epidemiologist and if I misuse or misstate a word or a phrase or a concept, will you let me know that?

A. Yes.

Q. Some of my questions may fairly call for a discursive answer, and if my question fairly calls for such an answer, will you give one?

A. Yes.

Q. Some of my questions may fairly call for an answer of yes or no, and if I ask such a

question, will you give such an answer?

A. If it's appropriate for yes or no, yes.

Q. Fine. This deposition today is being conducted in many cases. Are you aware of that?

A. Yes, I am.

Q. For purposes of economy and to make sure that we don't duplicate our efforts in 50 or so cases, we are going to try to consolidate all of this in the single deposition.

These cases are based in Florida and have been brought against a variety of defendants.

Are you familiar with the Whipple case, which is one of these cases?

A. No, I'm not.

Q. Do you know the name of the smoker in the Whipple case at all?

A. No, I do not.

Q. I am just using this as an example.

Do you know if the smoker in that case is a man or a woman?

A. No, I do not.

Q. Do you know what brands that smoker

smoked?

A. No.

Q. Do you know what diseases that person had?

A. No.

Q. Do you know if that person is dead or alive?

A. No.

Q. I am not going to go through each one of these cases.

Is it fair to say that with regard to the Ramirez case or the Prince case or the Levy case or the Joy case or any of the other cases in which this deposition has been noticed, you don't know the name of the smoker?

A. This is correct.

Q. You don't know whether the smoker is dead or alive?

A. Correct.

Q. You don't know whether the smoker is a man or a woman?

A. Correct.

Q. You don't know whether the smoker suffers from lung cancer, heart disease or some other disease?

A. Correct.

Q. You don't know what brands that smoker smoked?

A. No.

Q. You don't know what companies manufactured the brands that the smoker smoked?

A. I do not.

Q. And you don't know what other exposures that person may have had in his or her life that have been epidemiology linked to the diseases in question?

A. Correct.

Q. OK. So it's fair to say that you are not here to give any information or opinion with respect to any individual plaintiff, is that correct?

A. That is correct.

Q. It is also fair to say that you are not here to give any information or opinion with regard to any particular cigarette or brand of cigarettes, is that correct?

A. That is correct.

Q. And you are not here to give any opinion with respect to any particular manufacturer of cigarettes, is that correct?

A. Correct.
Q. Dr. Whelan, I believe your deposition in the cigarette case was first taken in a case called Allgood in Texas in about 1993?
A. That's correct.
Q. In the time since that deposition was taken, have you undertaken any comprehensive literature review of smoking in health literature?
A. I have been involved in supervising such reviews, yes.
Q. Have you personally undertaken such review yourself?
A. To some extent, yes.
Q. What literature have you reviewed in the period since 1993 with regard to smoking and health?
A. I spent a substantial amount of my time reading literature about smoking and health, and, in particular, in that three-year frame my organization assembled a book on the health consequences by medical specialty of smoking and I was directly involved in the research for that book.
Q. What was the name of that book?

A. The name of that book is "Cigarettes, What the Warning Label Doesn't Tell You," the first comprehensive guide to the health consequences of smoking.

Q. Let me see if I can clarify this. When you say your organization, you are referring to the American Council on Science and Health?

A. Yes, that's right.

Q. And when you say that you've undertaken a review of literature, could you identify the books and articles that you read in the period since 1993 with regard to smoking and health?

A. I've read so many and I simply could not begin to identify them.

Q. Well, out of the so many that you've read, could you identify five?

A. It's not so much books as it is reading, *Index Medicus* and reviewing the literature that is available on the subject of smoking and health.

Q. Let's break this down.

Can you identify any book that you've read on the subject of smoking and health since

1993?

A. I've read Richard Kluger's book, "Ashes to Ashes."

Q. That's not a scientific book, is that correct?

A. No, but you didn't ask for a scientific book.

Q. That is fine. I just want today clarify the record. "Ashes to Ashes" is written by a New York Times reporter, is that correct?

A. He's a journalist.

Q. Apart from that book, which is one of popular literature, is that correct?

A. That's correct.

Q. It was a New York Times best seller, correct?

A. No, but --

Q. In any event, apart from "Ashes to Ashes," can you recall any other book that you've read on the subject of cigarettes since 1993?

A. Would any of the Surgeon General's reports count as a book?

Q. Certainly. Which Surgeon General

reports?

A. I believe I have a complete collection of Surgeon General reports back to about 1964, and I certainly consult them on a regular basis. I do not sit down and read cover to cover books on smoking and health.

Q. So it's fair to say that you have consulted from time to time with the Surgeon General's reports but you have not read any cover to cover?

A. I have at various times but not in the last three years read them cover to cover.

Q. In the period since 1993, you haven't read any cover to cover?

A. I'm trying to -- literature on smoking and health is not generally put together in book form. So, my review of literature on that subject in the last three years is primarily confined to the published peer-reviewed scientific medical literature.

Q. I wanted to clarify this because the record will be unclear. When you say the last three years, you are referring to the last five years, is that correct, since 1993? It is 1998.

A. It was December 1993 that I was deposed in the Allgood case.

Q. It is now February 1998, so that is four years and three months?

A. Yes.

Q. In that period of time -- I just want to break this down; we will come to peer-review literature in a moment -- you don't recall having read any scientific books on the question of smoking and health, is that correct?

A. I'm having trouble with that question because I don't know of any specific books on smoking and health because most medical books are written in very, very minute specialty areas.

Q. All right. Let's turn to the peer-reviewed literature that you referred to.

What is peer-reviewed literature?

A. Peer-reviewed literature refers to original research and review articles that are submitted to journals that subject the manuscript to review by members of the scientific peer community who then either accept or reject it for publication.

Q. Now, certainly journals are peer-reviewed journals and certain journals are not, is that correct?

A. The most of the ones that are in the medical area that I consult are peer-reviewed journals.

Q. For example, the New England Journal of Medicine is a peer-reviewed journal, correct?

A. That's correct.

Q. And the Journal of the National Cancer Institute is a peer-reviewed journal?

A. That's correct.

Q. The British Medical Journal and the Lancet are peer-reviewed journals?

A. That's correct.

Q. Those are among the most famous and highly regarded medical journals, peer-reviewed journals, is that correct?

A. Yes.

Q. The process as you've described it is that people submit manuscripts, these journals?

A. Yes.

Q. And the manuscripts are then reviewed by specialists in the field of study embraced

by the article?

A. The editor would choose appropriate reviewers.

Q. And it is then -- and the articles are then accepted or rejected based upon the specialized appraisal of the peer reviewers?

A. They are either accepted or rejected or accepted with condition of revision.

Q. Now, your organization, the American Society -- I'm sorry, the ACS?

A. H.

Q. H. American Council on, I was going to say smoking and health, but it is Science and Health, has a journal called "Priorities," is that correct?

A. Yes.

Q. Is that a peer-reviewed journal?

A. No, it is not.

Q. And just so the jury would understand, although there are editors in Newsweek or Time Magazine or Priorities, none of those are peer-reviewed journals. Having an editorial board doesn't make a journal a peer-reviewed journal, is that correct?

A. That's correct.

Q. Now, when an author submits a manuscript to a peer-reviewed journal, he or she places his or her ideas to the commerce of ideas among specialists in the area, is that correct?

A. You present -- it is more than ideas. Generally, it is presenting a review or original data.

Q. And one places one's reputation on the line by doing that, is that correct?

A. Not any one single case, one does not.

Q. In general one does, is that correct?

A. Well --

Q. Is that fair to say?

A. It depends on what one is pursuing in professional goals.

Q. Now, you said that you have been reviewing peer-reviewed journals on smoking and health in the period since your deposition was taken in the Allgood case in December 1993.

Why do you refer to peer-reviewed journals? Why do you look at peer-reviewed journals for your literature search on that issue?

A. Because I want to know what the current state of knowledge on a given subject is, and scientific medical literature as indexed in *Index Medicus* would give, in my opinion, a very clear picture to what the knowledge was at a given time and date.

Q. What is the *Index Medicus*?

A. It's simply an index of selected medical and scientific journals, indexed by author, by subject and by year.

Q. Now, it's a hard-bound index, is that correct?

A. Sometimes it's hard bound. Eventually it is hard bound, but in the very recent issues it is not hard bound.

Q. It is also possible to do online computer search through Medline, is that correct?

A. That's correct.

Q. And that would lead you to the same articles, is that correct?

A. I'm not familiar with the comprehensiveness of Medline at this point. I haven't used it for quite a few years.

Q. Now, Doctor, you said you are not

here to -- I'm sorry. Let me follow up.

You said you've read peer-reviewed articles on smoking and health in the period since your Allgood deposition in December 1993. Could you identify for the record the most important of those articles, as you understand them?

A. No. I could not.

Q. Could you identify for the record five of the articles you've read?

A. Not at this point. I have undertaken research of the peer-reviewed literature in the last four-and-a-half years on subjects, for example, relating to when the cigarette companies -- when those scientific literature established what causal linkage with disease, and I've look at that by date and I've consulted many articles to prepare abstracts of what the articles said, and I cannot right here at this moment cite the names of the articles.

Q. Could you cite any article --

A. No.

Q. -- either by the name of the author or the name of the article itself?

A. There are over 65,000 articles in the

medical literature since 1930 on smoking and health, and I'm not prepared to select out the names and authors of them, and they are very classic authors, including Ernst Wynder and Dr. Evert Graham, who published first in the early 1950s, Sir Richard Doll, and more recently his colleague Richard Peto, who have written extensively in the peer-reviewed literature on this, but there are literally thousands of others.

Q. Have you read any articles by Dr. Doll or Mr. Peto or Dr. Wynder -- Dr. Graham is dead -- by Doll, Peto or Winder in the last four or five years?

A. Those are classic articles. And the fact that Dr. Graham is dead -- he died in 1957, as I recall -- is not relevant. His work is in the literature.

Q. Have you read any recent articles by Doctors Doll, Peto or Winder?

A. I've read articles by Mr. Peto recently on his estimates of worldwide mortality from cigarette smoking.

Q. You are referring to the publication in the Lancet in 1992, or are you referring to

the book that he wrote for the World Health Organization a year thereafter on estimates in the undeveloped world on cigarette-related deaths?

A. I'm really referring to both. I mean, I'm familiar with both. And have in the last few years read portions and summaries of those reports.

Q. You've read portions and summaries. Have you read either of them cover to cover?

A. I don't recall if I have.

Q. Would you be prepared to discuss Professor Peto's health-related statistics in other countries at this time?

A. No. I would -- once I reviewed his latest publication, then I would be prepared to do that.

Q. OK. But you wouldn't be prepared at this time?

A. No.

Q. All right. Now, Dr. Whelan, could you define for the record what a prospective epidemiological study is?

A. In a prospective epidemiological study, it is a so-called forward-looking study

which basically follows healthy people and looks at disease events that may be related to a suspected cause, as opposed to a retrospective study which begins with individuals who already have a disease.

Q. All right. A prospective study is also sometimes called a covert study?

A. Correct.

Q. A retrospective study is also sometimes called a case control study?

A. That is correct.

Q. Have you ever conducted a prospective study on smoking and health among any population in the world?

A. I personally have not, no.

Q. Have you ever conducted a retrospective or case control study on smoking and health on any population in the world?

A. I have not.

Q. Have you ever written a peer-reviewed article on smoking and health epidemiology?

Let me rephrase the question. I saw you look quizzically.

Having never conducted a case control or covert study on smoking and health, you have

never submitted a manuscript on any original research on smoking and health, is that correct?

A. That is correct.

Q. Have you ever published in any peer-reviewed journal on epidemiology at all?

A. If you mean original research?

Q. Yes.

A. As opposed to a literature review?

Q. Yes.

A. No. I've done literature reviews but not original -- I have never been involved in original epidemiological research other than during my graduate school training.

Q. All right. Let's just clarify the record, then.

You've said earlier that you are not here to give any information or opinion with regard to any particular plaintiff, any particular cigarette, any particular manufacturer.

It is also fair to say, is it not, Doctor, that you are not here to provide any opinion or any information with regard to any original research that you've conducted because

you haven't conducted any?

A. This is correct.

Q. All right. Doctor, now, let's just go over some epidemiological terms.

Do you know what the delta method is used for?

A. No.

Q. Some epidemiological studies report odds ratios. Are you familiar with that?

A. Vaguely, yes.

Q. Others report relative risks?

A. Mm-hmm.

Q. Are you familiar with that?

A. Yes.

Q. What is the difference between an odds ratio and a relative risk?

A. I'm not sure what the difference is, if there is any difference at all.

Q. Well, what kind of studies lead to odds ratios?

A. I don't know.

Q. Are you familiar with Sir Ronald Fisher's work?

A. No.

Q. So you don't know what the Fisher

test is?

A. I did when I was taking my doctoral exams at Harvard, but I don't right now.

Q. Do you know what an etiologic fraction is?

A. Yes, vaguely what it is. It refers -- yes.

Q. What is it?

A. It refers to a portion of a given disease that might be attributable to a given cause.

Q. Are there other names for the etiologic fraction that you are familiar with?

A. Attributable risk.

Q. Could you just state for the record what the formula for attributable risk is?

A. No, I can't, but I have a textbook for consulting it when I need to.

Q. OK. Is it fair to say that you do not personally in your practice calculate attributable risks on a regular basis?

A. That is correct.

Q. When was the last time you calculated an attributable risk?

A. Most probably during my graduate

training. My position in epidemiology and public health has been one of heading up a group of over 300 scientists who do the actual estimates, the actual research and writing, and I'm the coordinator so I do not get involved in that directly myself.

Q. We'll come to that in a moment in detail. But it's fair to say that in the past 20 years, at least, you do not recall having calculated any attributable risks, is that correct?

A. Generally speaking, yes.

Q. Is it also fair to say that in the last 20 years you have not personally calculated any odds ratios?

A. Yes.

Q. And is it fair to say that in the last 20 years you have not personally calculated any relative risks?

A. Yes.

Q. Relative risks and odds ratios are normally expressed with confidence levels, correct?

A. Correct.

Q. How is a confidence level calculated?

A. Again, I could have answered that during my doctoral preparation but I cannot -- I am not on a daily basis involved with the details of biostatistics and risk ratios and attributable risk and confidence levels.

Q. Now, you said in the Allgood case that you haven't read any books on biostatistics in the last 20, 25 years. Have you read any books on biostatistics since your deposition in the Allgood case?

A. No. Heavens, no.

Q. Are you familiar with the phrase, "coherence of an association?"

A. Not specifically in that terminology.

Q. Well, when a peer-reviewed article on smoking and health refers to coherence of association, what does that mean to you?

A. I'm not -- I really would only hazard a guess as to what it means. I don't know.

Q. OK. What about the phrase specificity, as it applies to the term specificity -- as it applies to association, what does that mean to you?

A. I really do not remember the terms. I know the specificity and, perhaps -- I will

say I do not remember.

Q. Now, the -- you are familiar with Cox's postulates on causation, are you not?

A. Yes. Again, as they apply particularly to communicable and infectious disease, I am aware of them.

Q. You generally are familiar with them?

A. Generally familiar.

Q. But you are not specifically familiar with them?

A. I have referred to them in my writings, particularly my book, "A Smoking Gun," where I try to make a comparison between establishing causation in infectious and communicable disease with diseases with long latencies, and I have presented the postulates. I know where to look them up. I do not have them before me and I cannot recite them verbatim.

Q. All right. You couldn't recite them verbatim.

Is it also fair to say that you don't give a comprehensive summary of them?

A. I could give a summary. I'm not sure how comprehensive it would be. My feeling

about science is that one should be able to know where to seek the answers to questions, not necessarily carry around all the specifics at any given time.

Q. And it is your testimony and it is your belief that Cox's postulates generally would not be applicable to environmental or similar exposures?

A. I think there are some aspects of it that could be applicable, but they would certainly have to be adapted to accommodate the fact that epidemiology initially begins looking for risk factors before moving to the term causation, and given the latency involved in chronic disease, and in some cases multifactoral causation, that they are not universally applicable to the study of chronic disease.

Q. Well, in contrast to Cox's postulates, two other criteria for determining whether an association may be viewed as one demonstrating cause-and-effect relationship were developed during the late 1950s and 1960s by Dr. Hill and by the Surgeon General's committee on smoking and health, is that

correct?

A. Yes.

Q. And could you state for the record who Dr. Hill was?

A. This is A. Bradford Hill?

Q. Yes.

A. He was one of the very early researchers who was involved with Sir Richard Doll in the preparation of prospective studies on smoking and lung cancer as published in the early 1950s.

Q. Sir Bradford Hill, who was a professor of epidemiology at Oxford, is that correct?

A. He was, yes.

Q. Wrote what he referred to as guidelines for causation rather than fixed rules?

A. Yes.

Q. There were seven or eight criteria that he used, is that correct?

A. I don't recall the exact number.

Q. The Surgeon General's committee in 1964, in determining whether to view a statistical association as one demonstrating

cause-and-effect relationship also set forth guidelines with five criteria, is that correct?

A. Possibly. I don't know.

Q. Now, both Sir Bradford Hill's and the Surgeon General's criteria referred to specificity of associations, didn't they?

A. Possibly. As I said, I'm not particularly familiar with all the details of their outlines.

Q. OK. They both referred to coherence of association as well, is that correct?

A. Possibly.

Q. But you don't know what those terms mean?

A. Not in terms of that context.

Q. OK. Dr. Whelan, let's just go over some of the major authors in the field of smoking and health.

You have already mentioned Sir Richard Doll. You view him as an authority on the subject of smoking and health?

A. Yes, I do.

Q. An authority on the subject of epidemiology generally?

A. Yes, I do.

Q. Now, Professor Richard Peto, who heads up the epidemiology section at Oxford currently, do you view him as an expert, an authority on the subject of epidemiology?

A. He is one of many experts, yes.

Q. You view him as authoritative?

A. There are some areas that Mr. Peto may opine on that may not represent the complete consensus, so I don't think he is an authority on all things that he speaks, no.

Q. But you view him as a renowned expert in the field?

A. He is one of many experts in the field.

Q. Now, you referred to Ernst Wynder, who wrote with Dr. Graham in 1950 and has continued to write to the present, is that correct?

A. He don't write too much to the present, but, yes, I have referred to him.

Q. He's director of the American Health Foundation currently?

A. Correct.

Q. He's editor of Prevention Magazine?

A. Correct.

Q. He was on the faculty at Washington University in St. Louis and has been on other faculties since then?

A. I know he was a medical student there. I don't know that he was often the faculty.

Q. Do you view him as authoritative on the subject of smoking and health and epidemiology generally?

A. Moderately so. He was an early authority on smoking. I haven't heard very much from him on the subject in the last 25 years.

Q. You haven't -- have you reviewed his publications in the last 25 years?

A. I have.

Q. Have you reviewed his publications on epidemiology in the last 25 years?

A. I have, as they relate to diet and health.

Q. He has written extensively in diet and health in peer-review publications in the last 25 years, is that correct?

A. He and his foundation have, yes.

Q. And he has also written on smoking on

a worldwide basis in that period, is that correct?

A. Sporadically. His primary work was very early on as a pioneer in research on the smoking and lung cancer.

Q. He was a pioneer both in epidemiology and toxicology in that area, is that correct?

A. I'm primarily familiar with his work on epidemiology.

Q. In 1950, along with Dr. Graham, he wrote a retrospective study on smoking and health?

A. Correct.

Q. Case control study?

A. That's correct.

Q. In 1953, 1954, he published a toxicological work that received wide publicity on mouse-skin painting, is that correct?

A. I vaguely recall that. Right.

Q. That is the most famous mouse-skin painting work ever published in the field of smoking and health, is that correct?

A. I don't know that to be the case, no.

Q. Do you know it not to be the case?

A. I know there have been other

mouse-skin painting tests very early on. Manny Bufo, as I recall.

Q. In what country?

A. He could have been in Italy, as far as -- the 1930's. Again, I have read so much literature I just would not put Dr. Wynder's mouse-skin painting test as being something unusual or authoritative. I would have to judge it in context.

Q. Have you reviewed the public literature, newspapers, magazines, to see the publicity received by Dr. Wynder's mouse-skin paintings as compared to the publicity received by other similar things?

A. No.

Q. Are you familiar with a man named Hiryama?

A. I believe -- has he been associated with the Japanese National Cancer Institute?

Q. Yes, he was.

A. I am vaguely familiar with him.

Q. And have you reviewed his studies on smoking and health?

A. As part of my general review of literature, I have encountered his name and

some of his studies, but I am not particularly familiar with him.

Q. Jonathan Samet, are you familiar with that name?

A. Jonathan?

Q. Samet.

A. I am not familiar with that name.

Q. If I tell you that he is director of epidemiology at Johns Hopkins, does that help you?

A. No.

Q. Tricropoulos, are you familiar with the name Tricropoulos?

A. I think it is pronounced differently, but are you talking about Demetrios who was at Harvard?

Q. Yes.

A. I am familiar with him.

Q. Are you familiar with some of his works?

A. I am familiar with some of his works.

Q. Did you view him as an authoritative expert in the field of smoking and health and epidemiology generally?

A. I believe that he is one of the

well-respected researchers in the area of smoking and health.

Q. What is his current position in Harvard?

A. The last time I heard, that he was head of the department of epidemiology at the Harvard School of Public Health, but I do not know what position he has today.

Q. Marcia Angell, are you familiar with her?

A. Yes.

Q. And she is the editor of the New England Journal of Medicine?

A. Correct.

Q. Do you view her as authoritative on the subject of epidemiology?

A. No.

Q. Do you view her as authoritative in questions of public health?

A. She is not a public health physician. I think she is a very prominent, thoughtful, intelligent physician.

Q. Do you think she is an expert in epidemiology?

A. No.

Q. Do you think -- are you familiar with a man named Papas?

A. No.

Q. Now, we mentioned earlier the British Medical Journal, Lancet, the New England Journal of Medicine and the Journal of the National Cancer Institute. Do you view those all as authoritative journals in the field of epidemiology?

A. I have to say yes with a qualification. Journals are not authoritative, nor are articles they publish necessarily authoritative. Authority and consensus comes with a large literature of reenforcing findings. So I cannot call something authoritative. To do so would suggest that anything they publish is beyond criticism or infallible in some way.

Q. All right. Understanding that, you are saying that although you may read something in the New England Journal of Medicine or the British Medical Journal or the Lancet or the Journal of the National Cancer Institute that has gone through peer review and has been submitted by a respected author, you may not

necessarily agree with it, is that correct?

MR. MATTHEWS: I object to the form.

A. I think it's really irrelevant whether I agree with something or not.

What I was saying is that if a very -- one of these journals that you have delineated published an article, findings, it may not represent the consensus on that particular subject. It could be an aberrant finding.

Q. We'll come to what you mean by consensus in a moment.

But if a journal receives a manuscript that contains what you refer to as aberrant findings, why would it publish those findings?

A. Because the findings could be very properly collected, analyzed and published. Science is not one article or one set of findings. It is a consideration of large numbers of reports and looking at their compatibility and their consistency and the pattern that they would pose.

Q. Now, you said -- you referred earlier to Surgeon General's reports. Do you view the

Office of the Surgeon General as generally authoritative on questions of epidemiology?

A. I would say I would -- I believe that the Office of the Surgeon General commissions peer-reviewed studies that review the current state of knowledge on something and an authoritative report on what the current state of knowledge is, yes.

Q. Let's break that down. In the subject of smoking and health, do you know of any study, peer-reviewed study, that has ever been commissioned by the Surgeon General's office?

A. I do not. I don't believe that is the role of the Surgeon General's office, no.

Q. OK. So the Surgeon General's office does not commission peer-reviewed studies or, for that matter, original research, is that correct?

A. Not that I'm aware of.

Q. In fact, the Surgeon General of the United States has never conducted and no one under his auspices has ever conducted original research on smoking and health, is that correct?

A. I don't know one way or the other.

Q. But in general, you view the Surgeon General's office as expert and authoritative in subjects of epidemiology?

A. I can't answer that yes or no. It depends. I said if they are issuing a peer-reviewed consensus statement that reviews the state of knowledge on a subject, as they have often done, I would consider that authoritative, but not everything they would say I would consider authoritative.

Q. Well, they've issued such statements in questions of smoking and health, is that correct?

A. Yes, they have.

Q. Asbestos?

A. I'm not familiar with the ones on asbestos.

Q. Exercise and health?

A. I'm not familiar with that.

Q. Fat intake and health?

A. I'm not familiar -- I'm not -- that, specifically on that, dietary guidelines.

Q. Diet and health. They issued a consensus statement, as you would refer to it,

in 1988 on diet and health, is that correct?

A. I think so, yes.

Q. That is one with which you disagreed, is that correct?

A. Not with all of it, but I think there are some points of it with which we disagreed.

Q. We'll come to that in a moment.

What about the EPA, do you view the Environmental Protection Agency as being expert in the field of epidemiology?

A. No.

Q. And you disagree with them often, is that correct?

A. I disagree with them often but not always.

Q. The Food and Drug Administration, do you view them as expert in the field of epidemiology?

A. No, but they have access to expertise in epidemiology when they need it.

Q. And you disagree with them often, don't you?

A. Infrequently.

Q. For example, on the subject of Olestra, you've engaged in a fairly vocal

disagreement with them, is that correct?

A. That's incorrect. Incorrect.

Q. You have published a number of articles disputing their statements with regard to Olestra, is that not correct?

A. That's not correct.

Q. I'll put that off for a moment.

The OSHA -- are you familiar with the Occupational Safety and Health Administration?

A. I'm somewhat familiar with them.

Q. Do you view them as expert on the subject of epidemiology?

A. No.

Q. How about the American Cancer Society, do you view them as expert in the field of epidemiology?

A. They have access to expertise in epidemiology, and I wouldn't necessarily say that they are always expert in their opinion in epidemiology.

Q. In 1996, the American Cancer Society added red meat to its "Just say no" list; do you recall that?

A. 1996?

Q. Yes.

A. No.

MR. GROSSMAN: Would you mark this as Exhibit No. 1, please.

(Defendant's Exhibit 1 was marked for identification)

Q. Let me hand you what has been marked for identification purposes as Defendant's Exhibit No. 1, which is a copy of an article from the Denver Rocky Mountain News.

A. Mm-hmm.

Q. The byline is Elizabeth M. Whelan, is that correct?

A. That is correct.

Q. Do you recall having written this article?

A. Yes, I do.

Q. In the first article, you wrote, "The public anxiety may have reached a new high when the national news media recently reported the American Cancer Society has added red meat and alcohol to its 'just say no' list alongside cigarettes." Do you see that?

A. Yes.

Q. Do you recall having written that article?

A. Yes.

Q. Now, on the second page of this, you wrote that you recently saw a bumper sticker that may say it all, "life causes cancer?"

A. Yes.

Q. Do you recall?

A. I do.

Q. And you think that the American Cancer Society or reports of things that they have said may be viewed as alarmist?

A. Well, I think I would like to clarify that this article, as it says in the first paragraph, was less criticizing the American Cancer Society than it was criticizing the media. And the whole point of the first portion of this article was to point out that the Associated Press and Marion Burros of The New York Times misconstrued what the American Cancer Society actually said.

Q. At other times you disagreed with the American Cancer Society more directly, is that correct, particularly with regard to diet?

A. I have over the years, but I would say there is no disagreement as of today.

Q. There is no disagreement as of today?

A. No. I think what we're looking at here is that the relationship of diet and cancer has really been quite on the speculative level and with a lot of biological hypotheses suggesting there could be a link, but as time has passed, particularly just as recently as the last month, there is little case to be made that diet and meat is a cause of cancer.

Q. Are you suggesting the American Cancer Society has said that diet is not a cause of cancer?

A. They have used the general term of diet much the way Sir Richard Doll and Richard Peto did in 1980, speculating that many -- some aspect of diet may be related to cancer. But what I was saying here and in this article is that focusing in on one particular portion of the diet, namely meat as a cause, it was without scientific merit.

Q. Richard Peto and Sir Richard Doll have estimated that up to 70 percent of all cancer deaths may be attributed to diet, is that correct?

MR. MATTHEWS: I object to the form.

A. The authors in question, Sir Richard

Doll and Richard Peto, actually used a number more in the area of 30 to 35 percent of all cancers could be somehow linked with diet, but they made it clear that they did know what the specifics, and this was a theoretical kind of attributable cause as opposed to the linkage causation of smoking and cancer which they referred to as the first item in their chart entry.

Q. They've published often on diet and health, is that correct?

A. Sir Richard?

Q. Yes.

A. I disagree that he has written often on diet and health. They do not perceive diet as being anywhere near as important as smoking in the causation of cancer.

Q. Have you discussed this with Richard Doll or Richard Peto?

A. Yes, I have discussed this with Richard Peto.

Q. Have you reviewed the deposition that I took of Richard Peto in the case of Florida versus various tobacco companies?

A. No, I have not.

Q. Have you reviewed the depositions that I have taken of Sir Richard Doll?

A. No. I don't -- I have not seen the depositions.

Q. Dr. Whelan, you've testified on other occasions that you became fascinated with the subject of smoking and health when you were in high school.

MR. MATTHEWS: I object to the form.

Q. And you began to study the effects on it at that time; do you recall that?

A. I recall being on record as saying I was very interested in the subject of smoking and health at a very young age, and I certainly didn't begin studying it until I was in graduate training.

Q. Let me read to you, and if you want the transcript I'll give it to you, in the case of Engle v. R.J. Reynolds and others -- your deposition was taken less than a month ago, do you recall that?

A. Yes, I do.

Q. And at page 215 of that transcript, you were asked, "What prompted you never to start smoking?"

And you said you found it very unpleasant, the smell of it when other people smoked. And then you said, "I've been looking at the dangers, looking, professionally fascinated with the dangers -- I've been personally fascinated with it since I was in high school, and I've studied the effects of smoking then.

"I pursued it as research projects. I was very, very aware of the effects of smoking. I just chose never to want to smoke; it was never attractive.

"Q. were you taught anything about the health effects of smoking in high school?

"A. Yes, I was."

Dr. Whelan, what did you read in high school and college on the effect of smoking?

MR. MATTHEWS: Let me for the record move to strike the dissertation that you just had. It was unrelated to a question. It is improper impeachment. I object to the form.

MR. GROSSMAN: I'm not impeaching.

MR. MATTHEWS: I don't know what it was, but I object to it.

Q. Do you recall your testimony in that

area?

A. Yes.

Q. Now, Dr. Whelan, what did you study on smoking and health when you were in high school?

A. I don't recall. I would imagine it was standard public health literature on the dangers at that point, as it was known.

Q. And you -- how did you go about researching that?

A. In high school?

Q. Yes.

A. I don't remember. I mean, I know I had it as an interest for research papers or essays. It was something that was always very fascinating to me. And I was referring, of course, to subsequent research being more professionally oriented, viewing medical literature as coming in my graduate training not in my secondary school training.

Q. OK. Now, when you looked in high school and college on the subject of smoking and health, you went to publicly available sources, isn't that correct?

A. I am sure I went not to the medical

literature but to readers' guide, periodic literature.

Q. And you found other, various publicly available sources saying that smoking was dangerous, is that correct?

A. I think I could probably find a couple of articles in Reader's Digest, but I certainly didn't at that point try to assess the availability of the facts, as I did not know all the facts at that point.

Q. Have you ever undertaken -- did you undertake at that time or have you ever undertaken since a comprehensive review of publicly available literature on smoking and health to the general public?

A. Starting in, I think it was about approximately 1979, just after I formed the American Council, I did an assessment of the degree to which the dangers of smoking were reported in the popular literature as listed in the reader's guide, the periodic literature. And in 1980 my organization presented a report, which was later published in a public health education journal, quantifying the amount of exposure -- amount of coverage that the dangers

of smoking received in these magazines relative to other public health topics. And our conclusion was that there was a tremendous paucity of information about the dangers of smoking in the general popular literature with the stark exceptions of a magazine like Reader's Digest.

Q. Let me ask you: Approximately how many times did Newsweek magazine report on the dangers of smoking in the 1950s?

A. I can't give you an actual count, but I'm speaking here of a -- first of all, my studies that I was just referring to were from 1964 up until about 1980, and I was not involved at that point in actually counting the articles in the 1950s.

Q. From the period 1964 to 1980, how many articles appeared in Time Magazine or Newsweek magazine or Life magazine or U.S. News and World Report on the dangers or potential dangers of smoking?

A. I don't know the exact count.

Q. How about in The New York Times, or the -- how about in The New York Times?

A. I don't have an exact count.

Q. Now, the 50 or so cases that this deposition relates to are in Florida, in Tampa, and Jacksonville and other cities. What are the principal publications in Tampa, Florida?

A. I am not a resident or never have been a resident of Florida and I don't know the publications.

Q. Do you know the names of the principal publications in Jacksonville?

A. No.

Q. How about in Palm Beach County?

A. No, I don't know them specifically.

Q. The same would be true of Broward County and Dade County?

A. Correct.

Q. The same would be true of Pinellas County?

A. Yes.

Q. So it is fair to say that not knowing the names of the journals in Florida, you have not undertaken a review of those journals?

A. That is correct.

Q. And you don't know how many articles on smoking and health appeared in those journals, is that correct?

A. I'm not an expert on Florida reporting on tobacco.

Q. You don't know how many articles appeared on smoking and health in the 1950s, '60s, '70s, '80s, or at any other time in the Florida newspapers and journals, is that correct?

A. That's correct.

Q. Doctor, you said earlier that you didn't know the brands that plaintiffs in these cases smoked, or whether they were dead or alive or whether they are men or women. You also don't know how much these plaintiffs smoked.

A. That's correct.

Q. Now, you said you haven't conducted original research on smoking and health but you have reviewed some peer-reviewed articles.

When you've reviewed these articles, have you reviewed the methods that were used by the researchers?

A. I'm not routinely involved, though I do occasional peer-reviewed articles, and, no, I am not involved in studying methodologies of primary research.

Q. OK. You say you've done -- you've reviewed some articles. Have you ever been invited by any peer-reviewed journal in the world to be the peer reviewer of original research on smoking and health?

A. No, I have not.

Q. Now, you do not generally review the methodology of the peer review articles on smoking and health?

A. The question I find very difficult to answer, since the vast majority of original researchers thinking smoking and health was done in the 50s and '60s and '70s, and we are not reinventing the wheel here with new original studies on smoking and health in the 1990s.

Q. Are you reviewed the methodology that was used in the '50s and '60s?

A. I, in writing my book "A Smoking Gun" ten or more years ago, I certainly read a substantial number of the classic articles and read the methodology, yes.

Q. When you say you've read the methodology, have you reviewed the methodology to determine whether, in your view, the

methodology accurately demonstrated the odds ratios or relative risks that were reported?

A. No, I didn't have to do that, because the articles I was reading in my review were all published in peer-reviewed journals and I know that they had been through a rigorous review process that had to determine that, and certainly it was not necessary for me to redo that. I accepted them as being rigorously performed.

Q. But you undertook no study yourself to determine whether they were properly or rigorously performed?

A. That would be totally inappropriate. No, I did not.

Q. OK. There have been many studies, original studies on smoking and health and they continue to be written to the present time, is that correct?

A. There have been so many -- there have been, as I mentioned, tens of thousands of published articles on smoking and health and all aspects of it, that there are very few that, for example, would want to reestablish the causal link between smoking and lung

cancer. Once something is established beyond a reasonable doubt, there is no point in doing original research. On the other hand, there are increasingly reports of even new morbidities associated with smoking and those are new data that are being reported, yes.

Q. Let me see if I understand you.

You understand that there are still studies, such as the British Physician Studies, prospective studies, that are reported on, don't you?

MR. MATTHEWS: I object to the form.

A. I know there are many, many ongoing epidemiological studies, including the so-called Physician and Nurses Studies out in Boston, and they will go on, and their primary focus is not to confirm already established causal links to knowing and disease. Indeed, their primary focus is to look in different directions for other causalities.

Q. Dr., in reviewing all of these studies that are available in the literature, you are aware, are you not, that the studies have found different relative risks for smoking and lung cancer, for smoking and heart disease,

for smoking and emphysema and a variety of various other diseases, correct?

MR. MATTHEWS: I object to the form.

A. There could be a range reported from study to study in the precise relative risk established.

Q. They've varied rather considerably, have they not?

MR. MATTHEWS: I object to the form.

A. I'm not familiar with the full range.

Q. What would you say is the range of reported relative risks for smoking and lung cancer?

A. I'm not completely familiar with what the full range is, but the general consensus is that cigarette smokers smoke one pack of cigarettes a day, have fully a tenfold increased risk of lung cancer. What the variation around that has been from study to study, I'm not sure. It certainly would depend on the measurement of the number of cigarettes smoked, the length of time smoked, and these things can vary from study to study. So the relative risks would vary.

Q. How about the relative risk for heart

disease?

A. The relative risk for heart disease is smaller in a sense but much more prevalent for heart disease, in the area of two.

Q. Many studies have found a relative risk of approximately -- risk of approximately two for smoking and heart disease?

MR. MATTHEWS: Objection to form.

A. That is a relative number.

Q. That is a typical number that is found as a relative risk?

A. I don't know what typical is, but generally speaking, there is about a doubling of risk among smokers.

Q. Well, when there are a number of studies that report different relative risks, there are statistical methods for trying to homogenize the results, is that correct?

MR. MATTHEWS: I object to the form.

A. Recently there have been something called megaanalysis which attempts to pool the results of any studies to get some kind of a coherent overall view on causation, but that's subject very much to professional criticism.

Q. What is a megaanalysis and how does

it differ from a metaanalysis?

A. I meant a metaanalysis.

Q. All right. What is a metaanalysis?

A. Generally speaking, it's pooling data from a number of different studies to see if as a group they point more in the direction of causality as they do for individual studies.

For example, there is a metaanalysis study in the current issue of the Journal of the American Medical Association on breast cancer and alcohol, wherein individual studies have not been able to causally link alcohol and breast cancer, but this metaanalysis seems to suggest more of a causal link than would be reflected in the individual studies themselves.

Q. Now, have you ever conducted a metaanalysis?

A. No.

Q. Do you know the methods that are used to conduct a metaanalysis?

A. I do not know them specifically, no.

Q. You say metaanalyses are subject to criticism. What criticism?

A. That some of the criticism is just largely based on the view that if the

individual studies themselves do not point to a causality, that homogenizing them, as you said, or pooling them to enhance their causation is not appropriate. I'm only aware of the general criticism and I keep that in mind when I read studies that are based exclusively on metaanalysis.

Q. If there were, say, 35 studies, almost all of which showed no statistically significant increased risk from an association but which when pooled by metaanalysis showed arguably a statistically significant increased risk, would you rely upon the metaanalysis to determine if there was a statistically significant increased risk from the association of an exposure and a disease?

MR. MATTHEWS: I object to the form.

A. When you say "rely," for what purpose? Depending on what the subject matter was, "rely" would mean if I were in the business of issuing public warnings or public information, I might give this as a preliminary -- use this as a preliminary base for making such a warning.

On the other hand, I am not terribly

impressed by the metaanalysis. And, indeed, my organization is just about to publish a comprehensive literature review on alcohol and breast cancer which places alcohol not in a known cause of breast cancer but in a speculative, in the middle category. It initially seems in conflict with the current literature as reported this week in the Journal of the American Medical Association. But I think there is a way of resolving the two to the point where I think you use the term, would I take action on the basis of the metaanalysis.

Q. No, I didn't use that term.

A. Could you clarify the term you used?

Q. Would you -- if -- let me start the question again.

If the great majority of studies demonstrated no statistically significant increased risk from an exposure, but if a metaanalysis arguably showed a marginally statistically significant increased risk from an exposure, would that confirm to you that exposure to the environmental agent was in fact a cause of the disease in question?

MR. MATTHEWS: I object to the form.

A. I'm uncertain how to answer that question, because I'm not sure what role I would be in in making that assessment. If I were chief epidemiologist to making lists of causes, I would not, perhaps, put that exposure on the risk of cause. On the other hand, if my job were to communicate to individuals that this is a probable cause, that this should get their attention, that kind of analysis might be enough to prompt me to make such a recommendation.

Q. In public health, often warnings are issued before there is certainty that an agent causes a particular disease, is that correct?

A. That's correct.

Q. And from a public health standpoint, you might take a metaanalysis and on the basis of that issue a warning to the public?

A. Well, you see, you can't take these things out of context. If you have a metaanalysis and you have individual studies, perhaps you have some other things, as well. A very important additional item to be considered would be a biological hypothesis. For example, is this alleged risk factor, is it compatible

to what we know about the components of the exposure? I mean --

Q. Let's take alcohol and breast cancer. Alcohol has been indicated in a variety of epidemiological studies to be a potential carcinogen to a number of target organs in the human body, is that correct?

MR. MATTHEWS: I object to the form.

A. I would not agree with that, no.

Q. Alcohol is statistically associated with increased risk of esophagus cancer, is that correct?

A. I believe that is incorrect in the absence of tobacco exposure. I believe it is incorrect.

Q. Can you point me to a single peer-reviewed article that that is ever found, that alcohol is unrelated to esophageal cancer after controlling for cigarettes?

MR. MATTHEWS: I object to the form.

A. No, but I have to put it the other way. I am unaware of alcohol being causally confirmed as etiologically important in esophageal cancer in the absence of tobacco.

Q. You are familiar with a variety of

studies in the peer review literature --

A. Mm-hmm.

Q. -- that have demonstrated relative risks for esophageal cancer among drinkers, are you not?

A. I am somewhat familiar with the literature, yes, and it is overwhelmingly dominated by the synergism of smoking and alcohol.

Q. After controlling for smoking, which eliminates synergism, is that correct?

A. Not necessarily, because if you, if you are controlling for current smoking, it is not going to eliminate the synergism associated with the history of smoking.

Q. After controlling for lifetime smoking, do you know of any published literature anywhere in the world that has ever found that alcohol drinking is unrelated to esophageal cancer?

A. I have to put it the other way. I do not know of any well-controlled study which links alcohol in the absence of any smoking with esophageal cancer as a significant factor.

Q. Have you undertaken a Medline or

Index Medicus review of the literature in that area?

A. My organization has. We have a booklet on the health effects of alcohol use and --

Q. Have you personally?

A. I'm personally involved in my organization's work every day.

Q. I understand that, but have you personally ever undertaken such a review?

A. You mean, have I gone to the library or done the computer search?

Q. Yes.

A. No, I oversee those things.

Q. Have you reviewed the literature itself that other people have found?

A. Yes.

Q. What literature have you reviewed? What peer-reviewed literature have you reviewed on esophageal cancer and alcohol exposure?

A. Again, we have a booklet on the health effects of alcohol and that covered that.

Q. I'm not asking for your advertisement for your own booklets. I'm asking what

literature you have reviewed personally.

MR. MATTHEWS: I object to the form. I move to strike.

Q. Could you please identify for the record the names of any peer-reviewed literature you have ever read on esophageal cancer and alcohol exposure?

A. As mentioned a number of times here, I don't do that myself. I'm overseeing the development of peer-reviewed consensus statements from my organization, and that has been done and we do not list it.

Q. Peer-reviewed consensus statements, are the statements of your organization peer reviewed?

A. Yes, they are.

Q. By which peer review group?

A. By my scientists. I choose peer reviewers from my board of 300 physicians and scientists.

Q. Your board of 300 physicians and scientists, that's within your organization?

A. That's correct. And sometimes outside, as well.

Q. Let me see if I can go back on this.

Let's take another target organ.

Laryngeal cancer has been relayed to alcohol consumption in a variety of studies, is that correct?

MR. MATTHEWS: I object to the form.

A. I have to go back to the same response that laryngeal cancer is overwhelmingly linked with tobacco. It is such an overwhelming risk factor in that it is primarily a synergism of the two if alcohol is involved.

Q. Can you identify any study, in any language, in any peer-reviewed journal in any country of the world that has ever found, after controlling for cigarette smoking, no link between alcohol consumption and laryngeal cancer?

A. Again, I have to respond that in our review of the literature we have not found -- in discussing the etiology of laryngeal as well as esophageal cancer we emphasize the overwhelming contribution of tobacco and I cannot pick out the names of a single study, as you requested.

Q. All right. Let me see if I can back

up on this.

You said earlier that you are not here to testify about any particular plaintiff or company or exposure. You are not here to testify about any original research that you have done on smoking and health, because you haven't done any. And you have not undertaken personally any review of the methodology used in published reports on smoking and health.

That's correct, is it not?

A. Right.

Q. Others have presented to you, others in your organization, as you put it, have presented to you with regard to smoking and health-related issues their sum reviews of the literature in those fields?

A. In the fields of smoking and public health?

Q. Smoking and health and epidemiology in general.

A. I object to your characterization of my knowledge in this area in that manner. I have been in the field of public health for over 27 years following my graduate training. I am interested in the broad spectrum of public

health topics. I am concerned with identifying and educating people about the causes of premature disease and death. And from firsthand experience of reading scientific literature and doing analyses of what the causes of premature death are, it's overwhelming, the contribution of smoking is overwhelming, and --

MR. GROSSMAN: I move to strike as not responsive.

MR. MATTHEWS: Let her finish the answer.

A. -- and I think, from my perspective, it is irrelevant to be talking about reading someone else's methodologies. My view is one of a broad perspective and a great concern on the role of cigarette smoking in causing early death.

Q. Dr. Whelan --

MR. GROSSMAN: I move to strike as nonresponsive.

MR. RILEY: We join in that motion.

MR. MATTHEWS: I agree, there is no sense in taking that up.

MR. GROSSMAN: I was about to say,

certainly an objection by one will be taken as an objection by all.

MR. MATTHEWS: Absolutely.

MR. GROSSMAN: Good. Thank you.

Q. Dr. Whelan, you have not conducted any studies, and you have not personally undertaken a metaanalysis or other statistical survey of the studies that have been published, is that correct?

A. Correct.

Q. But you have reviewed studies of the studies that have been conducted?

A. When?

Q. Such as the Surgeon General's reports.

A. Are you asking me to characterize my -- how I have acquired knowledge on smoking and health in the last 27 years?

Q. No, I am not?

A. I don't understand the question then.

Q. When you speak of the last 27 years, are you referring to yourself, in various articles and at the Engle deposition, as a public health educator; is that one of the terms that you used to describe yourself?

A. I have been involved in public health education.

Q. And you refer to yourself as a public health educator?

A. Among other things.

Q. When was the last time you were on a faculty of a public health degree-granting accredited institution?

A. I headed a faculty appointment, I believe it was 1975, '76 at the Harvard School of Public Health, but my --

Q. That was -- I'm sorry.

In the past 20 years, you have not been on the faculty or related to the faculty of any degree-granting public health institution in the world, is that correct?

A. It's correct, because my interest in public health education is not academic but it is in real life in dealing with real education for real people.

Q. Is it also correct that you have not taught any courses in public health in the last 20 years?

A. I'm not an academic. It is not my chosen profession.

Q. And when you were at your school of public health, that was as a graduate student, you were teaching as a graduate student?

A. No. I had a postgraduate appointment there.

Q. For a brief period of time?

A. For a number of years, yes.

MR. GROSSMAN: Why don't we take our morning break.

MR. MATTHEWS: Sure.

(Recess)

BY MR. GROSSMAN:

Q. Doctor, you referred already several times to the American Council on Science and Health, and you've said that you personally have undertaken no original research on smoking and health.

Is it also true that the American Council on Science and Health itself has never performed any original research on smoking and health?

A. I don't know what you mean by -- I would call our research involving the analysis of the reporting in women's magazines on smoking and health rather original.

Q. Let's break this down.

Has the American Council on Science and Health ever engaged in any prospective study on the effect of smoking on any organ of the human body?

A. No.

Q. Has it ever engaged in any retrospective study on the effect of smoking on any organ of the human body?

A. No.

Q. Has it ever engaged in any independent and original epidemiological study relating in any respect whatsoever to smoking and health?

A. I would call our book on the cigarette warning label, which is a review of the health effects of smoking by medical specialty, as a unique and innovative original contribution to the epidemiology of smoking, yes.

Q. It reviews the works of others?

A. That's correct.

Q. Has the American Council on Science and Health ever undertaken original scientific epidemiological work in the field relating in

any respect whatsoever to smoking and health?

A. Under your definition of original research, no.

Q. It's reviewed the work that other people have done, as a matter of fact?

A. Sometimes in very original ways, yes.

Q. Sometimes it's come to its own analyses of what other people have written?

A. Or we assessed and we categorized their findings in unique ways, yes.

Q. But it's never done it on the basis of what could be referred to as firsthand information, is that correct?

A. It would never -- we are not involved in firsthand data collection.

Q. You are not involved in firsthand data collection or in firsthand epidemiology, is that correct?

A. That's correct.

Q. And that's true not only of yourself personally but of your entire organization, is that correct?

A. That's correct.

Q. And you referred earlier to the term "consensus" a number of times.

When you were referring to a "consensus," are you referring to a consensus of the American Council on Science and Health or a consensus of the American or international scientific community?

A. I've use the term in both ways.

Q. Those are two different things, are they not?

A. Well, they are two different -- yes. My organization's consensus is achieved by consulting and polling my members only. It is a subuniverse of the entire scientific universe.

Q. Let me see if I understand.

You said you are not here to provide any information regarding the plaintiffs or their personal diseases or anything like that, anything relating to any plaintiff or any defendant. You've said you are not here to provide any information with a regard to any independent original research on smoking and health. You are here to provide information that has been developed by your organization, is that correct?

MR. MATTHEWS: I object to the form.

A. No, not my -- my knowledge is not simply developed by my organization. I have done personal research, comparing a book on smoking and health. I have written many articles on my own on cigarettes and health. So my contribution and knowledge of cigarettes and health and policy relate not only to the consensus of my organization on the subject but also additional endeavors that I have performed on my own.

Q. You've said that you read some of the Surgeon General's reports?

A. Yes.

Q. Which Surgeon General's reports have you read cover to cover?

A. I cannot tell you which ones. I have read so many things in my lifetime on smoking and health and particularly in preparing my book in the mid-1980s.

Q. Have you read the report of the Royal College of Physicians and Surgeons on smoking and health?

A. I have to -- would have to clarify that. Is that the one that was in 1959?

Q. 1957.

A. 1957. I am familiar with it.

Q. Have you read it?

A. I have read it.

Q. Cover to cover?

A. I don't recall whether I've read it cover to cover or when if I've come -- I've certainly been aware of it in my research on the history of smoking.

Q. Just to pinpoint those. The Surgeon General in 1964 issued his first and very famous report on smoking and health. Thereafter, there were Surgeon General's reports on individual topics on smoking and health?

A. That is correct.

Q. For example, one on emphysema and chronic lung disease and smoking?

A. One on heart disease.

Q. One on heart disease.

By topic, can you identify any Surgeon General's report that you have read cover to cover?

A. No.

Q. Did you read the 1964 Surgeon General's report cover to cover?

A. At some point, yes.

Q. The World Health Organization has issued various reports on smoking and health, has it not?

A. Over the years, yes.

Q. Have you read any of those?

A. I have perused them.

Q. Scanned them?

A. Yes.

Q. The Congressional Research Service issued an extensive report on environmental tobacco smoke and health. Are you familiar with that?

A. I'm familiar with a summary of it, yes.

Q. Are you familiar with a summary of what the Congressional Research Service said?

A. That's right.

Q. But you haven't read the Congressional Research Service's report?

A. No. I acquired it from my staff, who was preparing an analysis of that to review in depth.

Q. Who prepared the summary?

A. Who prepared which summary?

Q. The summary that you read on the Congressional Research Service paper.

A. I have had some interns working on that for the last two years to try to develop a general position paper for my organization on secondhand or ETS, and part of the review of that team preparing our physician paper is to review the Congressional record which is a critique, as I recall, of the EPA report.

Q. And who prepared the summary that you referred to a moment ago?

A. It's in preparation.

Q. You say you reviewed a summary. Who prepared the summary that you reviewed?

A. Members of my staff.

Q. OK. So it wasn't a summary -- it wasn't the executive summary that was the beginning of the Congressional Research Service report?

A. I read that, as well, yes. I read both.

Q. Now, you've testified earlier as to other summaries that you've read of various medical journal articles and the rest -- are these publicly available summaries or are these

internal summaries at your organization, or both?

A. The summaries that I've read of the literature on smoking and health?

Q. Yes.

A. I would say both. With my staff, I have, for example, reviewed the literature from the 1930s and 1940s to determine what the state of knowledge was, for example, about nicotine or nicotine addiction. Another time we did such a review on what the state of knowledge was about causation with disease by year in those two decades and wrote up a summary. So I would say that would be an internal document.

Q. Doctor, you've testified many times already about consensus. Are there any courses at the Harvard School of Public Health or Yale that you are familiar with on how to determine whether a consensus has been reached on a medical issue?

A. No.

Q. Are there any treatises that you are aware of as to how to determine whether a consensus has been reached on a medical issue?

A. No.

Q. Are there any peer review journal articles that you are familiar with as to how to determine whether a consensus has been reached as to any medical issue?

A. No.

Q. If there are 20 published articles on a subject and 18 go one way and two go the other, is there any -- is that a consensus?

A. I couldn't say yes or no on that. It would depend on the quality of the research, the extent of the findings, the nature of the risk that was established. There would just be many factors in determining it. But in my view a consensus is reached when at a given point the information becomes overwhelming and that there are very few conflicting data to the contrary.

Q. So it is a matter of judgment?

A. In a sense it is a matter of judgment, yes.

Q. All right. You have a Doctor of Public Health degree, is that correct?

A. Yes.

Q. How is that different from a medical doctor degree?

A. Actually, it is a Doctor of Science degree that I have from Harvard.
Q. In public health?
A. In public health.
Q. How does that differ from a medical doctor degree?
A. There is no resemblance whatsoever with a medical degree. It is a degree in public health as opposed to medicine.
Q. You don't treat patients?
A. I do not.
Q. You would not diagnose anyone's disease?
A. Of course not.
Q. And you don't determine the cause of any individual's disease, is that correct?
A. Correct.
Q. The purpose of public health is largely to provide public warnings, is that correct?
A. No. I think the purpose of public health would be much broader than that.
Q. I said largely. Let me rephrase the question.
Public health is not forensic in the

sense it doesn't seek to determine the cause of any individual's illness, is that correct?

A. Correct, public health deals with aggregate.

Q. It also deals with advocacy, is that correct?

MR. MATTHEWS: I object to the form.

A. I don't know what you mean by advocacy. If it's advocacy of information, yes.

Q. There are courses at the Harvard School of Public Health and at Yale in public health on advocating public health positions in the political sphere, is that correct?

A. Not that I'm aware of, no.

Q. The public health is primarily prospective in the sense that it seeks to improve the health profile in the community by changing lifestyle patterns, is that correct?

A. That's only one of the ways that public health works.

Q. How else does it work?

A. Public health certainly intervenes to reduce risks of disease, for example, through vaccination, through the use of fluoridation in

water, through the use of secondary detection, which would not be changing lifestyles but simply trying to encourage people to find curable disease early.

Q. Let me hand you what I'm going to mark for identification purposes as Defendant's Exhibit No. 2.

(Defendant's Exhibit 2 marked for identification)

Q. This is the introduction to the Harvard School of Public Health on the web site of the Harvard School of Public Health. Are you familiar with James Ware, the acting dean of public health?

A. No, I am not.

Q. If you look with me on the second page, in discussing the overriding mission of the Harvard School of Public Health, it says it is to advance the public's health through learning and discovery and it comprises four objectives: To educate scientists, professionals, and leaders for public health; to foster new discoveries and develop better technologies for improved health of individuals and populations; to inform and influence debate

on key public health issues; and to strengthen capacities and services that meet the health needs in the community.

A. Yes.

Q. Would you agree with that as a basic definition of public health?

A. No, I wouldn't. That's not my definition.

Q. Would you agree that public health includes, as taught at major schools of public health, the mission to inform and influence debate on key public health issues?

A. Those are very vague words and I could not endorse them or encompass them into my view of public health, no.

Q. Certainly in your role in the past 25 years you've tried to influence debate on key public health issues, haven't you?

A. I've tried very hard to provide information that would allow informed debate on the issue. I'm not necessarily trying to influence the debate.

Q. Well, isn't it true that you have a public relations consultant?

MR. MATTHEWS: I object to the form.

A. I have a public relations consultant -- I have a media person who works for me part-time to distribute my material to the media.

Q. How does a media person differ from a public relations consultant?

A. I don't know. I don't know what -- I don't know how that is defined.

Q. How does a media person, as you define it, differ from a publicist?

A. I would describe my media person as a publicist.

Q. OK. Now, the purpose of this publicist is to get out the message when you want to get out the message?

MR. MATTHEWS: I object to the form.

A. The purpose of this person is to make sure that the opinions and the conclusions, the publications of the American Council are brought to the attention of print and media print and electronic journalists, yes.

Q. You've put out various press releases over the years, is that correct?

A. That's correct.

Q. You've put out press releases saying

there is no such thing as a "Gulf War Syndrome?"

A. We say something a little more specific than that. We say there is no evidence that serving in the Gulf predisposed per se to any specific diseases as claimed by many veterans.

Q. You put out press releases on Olestra?

A. Yes.

Q. You put out press releases on food labeling?

A. Yes.

Q. You put out press releases on PCBs?

A. Yes.

Q. You put out press releases on dioxin?

A. Correct.

Q. You put out press releases on lead?

A. Correct.

Q. You put out press releases on pesticides?

A. Yes.

Q. You put out press releases on irradiated food?

A. Yes.

Q. You put out press releases on the Gulf War Syndrome?

A. Yes.

Q. You put out press releases on alcohol?

A. Yes.

Q. Who asked you to?

A. No one asks us to. I formed the organization because I felt that I wanted to have my practice of public health take the form of bridging the gap between the scientific community's views on topics and what the media reports. So no one asked me to. I chose this as my self-appointed profession.

Q. Self-appointed. OK.

Well, let's turn to your statements, for example, with regard to the Gulf War Syndrome. What is the Gulf War Syndrome, Dr. Whelan?

A. I think there is no formal definition of it. I think that it's generally regarded as being an alleged cluster of diseases which occur with increased frequency among men and women who served in the Gulf War, which they attribute to some biological or chemical agent

to which they were exposed in that time period.

Q. My index is different from the page numbers here.

(Pause)

MR. GROSSMAN: Would you mark this as Exhibit No. 3, please.

(Defendant's Exhibit 3 marked for identification)

Q. Dr. Whelan, let me hand you what has been marked for identification purposes as Whelan Exhibit No. 3.

This is a press release from your organization, is that correct?

A. I don't believe it is a press release, but I believe it is an editorial under my byline for the magazine "Priorities."

Q. It appears as well at your web site on the Internet, is that correct?

A. Correct.

Q. Could you read for the record the title of your editorial, as you've put it?

A. "Gulf War Syndrome, a Phantom Illness."

Q. And that was written on November -- in 1995, is that correct?

A. Yes. Apparently this is a reprint of an article I had in USA Today on this subject.

Q. Now, this is an article that you wrote for USA Today?

A. That's what it says here, yes.

Q. Did USA Today ask you to write that?

A. Yes.

Q. Let's look at the second paragraph, if we may.

It says -- you wrote, "Despite claims by some Persian Gulf veterans, there is no scientific evidence that they have any unique pattern of illness other than symptoms of stress that can be causally linked to their military service in the Gulf," is that correct?

A. Correct.

Q. You then said, "Indeed, there now exists a substantial amount of analysis and data to justify conclusion that there is no Gulf War Syndrome." You wrote that?

A. Correct.

Q. You wrote, "No one can prove the validity of the allegations that have been made that nerve gas or unsafe vaccines caused ill health. Therefore, at this junction no more

costly government studies are justified." Is that what you wrote?

A. Yes.

Q. The government did continue to make studies, though, didn't it, on Gulf War Syndrome?

A. I'm not familiar with any particular, very formal study. I know there is continual press commentary about Gulf War Syndrome, but I don't know of any studies that have been done. There have been no studies, to my knowledge, that have ever established that veterans of the Persian Gulf had any unusual frequency of disease. So this would be relevant today.

Q. OK. Let's continue in your article.

You say, "We should not now repeat the Agent Orange travesty."

A. Correct.

Q. What does that refer to?

A. That refers to a parallel incident involving Agent Orange veterans who claim to have an unusual frequency of disease which they linked to the use of the defoliant Agent Orange, which is a combination of herbicides, like 24D and 245T. And the travesty was that

these claims advanced to the point there was litigation against the chemical manufacturer and a settlement where these veterans were reimbursed for allegedly being harmed by the chemical. And I call that a travesty because there was never any science to justify it.

Q. OK. And you believe that there was never any science to justify that the Gulf War veterans were exposed to nerve gas or were damaged by it?

A. No. I said, as I state here, there was no evidence that they had any unusual incidents of disease, compared to other people in their age cohorts, and that there was no evidence linking it to either nerve gas or vaccines or whatever the possible alleged etiologic agent was.

Q. You say, "The effect of nerve gas are immediate and no symptoms of nerve gas exposure were recorded during the war itself."

A. At the time that I wrote that, that was the case, yes.

Q. You say that the ailments being recorded are inherent to the human condition. Like anyone else, Gulf War veterans will become

ill at sometime?

A. That's correct. The problem with clusters of this sort is they are not compared to any base of what the age cohort would be experiencing even outside the Gulf exposure.

Q. By the way, Doctor, it is true that the ailments that you attribute to cigarette smoking, including lung cancer, heart disease, are inherent to the human condition, they occur in people who have never smoked, is that correct?

MR. MATTHEWS: I object to the form.

A. Particularly regarding lung cancer, they occur but extremely rarely.

Q. But cigarette smoking is neither a necessary nor sufficient cause of lung cancer, emphysema, heart disease or any other disease, isn't that correct?

MR. MATTHEWS: I object to the form.

A. I need to speak to these issues separately.

Q. I don't understand that. I'm asking you questions in a legal proceeding.

Lung cancer -- cigarette smoking is neither a necessary nor a sufficient cause of

lung cancer, isn't that correct?

MR. MATTHEWS: I object to the form.

A. Necessary or a sufficient cause? I'm sorry, you would have to use the terms that I understand to answer that.

Q. You've never heard as a scientist the terms "necessary" and "sufficient" cause?

A. Not in that regard, no. I feel uncomfortable answering that. I could say that there are cases of lung cancer that have occurred in the absence of cigarette smoking.

Q. And there are many people who have smoked --

A. And it is very rare.

Q. -- who have smoked all of their lives who never get lung cancer?

A. The majority of people who smoke do not get lung cancer. The majority of people who smoke do become sick from other cigarette-related diseases.

MR. GROSSMAN: Move to strike as nonresponsive.

Q. Is cigarette smoking a necessary cause of heart disease; that is, do people get heart disease in the absence of cigarette

smoking?

A. People do get heart disease in the absence of cigarette smoking.

Q. Is cigarette smoking a sufficient cause of heart disease; that is, does everyone who smokes get heart disease?

A. I'm not aware that it has been shown that everyone who smokes gets heart disease, no.

Q. Is cigarette smoking a necessary cause of emphysema; that is, does everyone who smokes get emphysema?

A. Everyone who -- does everyone who smokes get emphysema? Do you mean does everyone who has emphysema smoke?

Q. No.

A. Does everyone who smokes get emphysema?

Q. Yes.

A. No.

Q. Does everyone who has emphysema have a history of smoking?

A. No, but the overwhelming proportion of people who have emphysema have a history of smoking.

Q. So the ailments of emphysema, heart disease and lung cancer are inherent in the human condition as well?

A. I don't feel comfortable saying that without qualifying it. They are inherent in the human condition, lung cancer and emphysema, but they overwhelmingly occur not in nonsmokers but in smokers.

Q. Now, like anyone else, Gulf War veterans will become ill at sometime.

Dr. Whelan, are you familiar with news articles since you wrote this editorial piece on detailing the exposure of Gulf War veterans to toxic chemicals in Iraq in 1991?

MR. MATTHEWS: I object to the form.

A. No, I'm not aware of any news articles that make the conclusions of this editorial from 1995 irrelevant or outdated.

Q. In the period since 1995, has not the Department of Defense of the United States admitted that Gulf War veterans were exposed to nerve gas in Iraq in 1991?

MR. MATTHEWS: I object to the form.

A. I am not familiar the source or the veracity of that, so I couldn't comment on

that.

MR. GROSSMAN: Let me have this marked as Exhibit 4, please.

(Defendant's Exhibit 4 marked for identification)

Q. Let me hand you what has been marked for identification purposes as Exhibit No. 4. It is a copy of an article from The New York Times --

MR. MATTHEWS: Excuse me. Do you have another one?

MR. GROSSMAN: No. I'm sorry, I don't.

Q. -- dated June 22, 1996. Do you see that?

A. Mm-hmm, yes.

Q. The headline was "Gulf War Illness may be Linked to Gas Exposure, Pentagon Says."

A. Do I recall seeing that article?

Q. Yes.

It says, "The Pentagon disclosed today that American troops may have been exposed to nerve gas shortly after the war in the Persian Gulf when an Army unit blew up an Iraqi ammunition depot that contained rockets

armed with chemical agents."

A. Yes.

Q. When you said earlier that you're unfamiliar with the source of reports indicating that our troops may have been exposed to nerve gas in the Gulf, does this refresh your recollection as to what one of those sources was, the Pentagon of the United States?

MR. MATTHEWS: Object to the form.

A. It doesn't. It says "may." It is not a statement of fact. That is a -- that does not change the thrust of my article as it stands in 1975.

Q. So because it said that they "may" be related, it doesn't change anything, is that correct?

A. It doesn't change any of my conclusions in the article, no.

MR. GROSSMAN: Mark this as Exhibit No. 5, please.

(Defendant's Exhibit 5 marked for identification)

Q. I hand you what has been identified for identification -- what has been marked for

identification purposes as Whelan Exhibit No. 5, which is an article from The New York Times dated July 24, 1997, titled "Study Sharply Raises Estimate of Troops Exposed to Nerve Gas."

In the summer of 1997, the Pentagon and CIA concluded that nearly 100,000 troops may have been exposed to low levels of nerve gas during the Gulf War, is that correct?

MR. MATTHEWS: I object to the form.

A. That's what it says here.

Q. And inasmuch as the Pentagon and CIA concluded that --

A. They concluded it may. They may.

Q. Inasmuch as they concluded that 100,000 veterans may have been exposed to nerve gas and that that could account for what has been identified as the Gulf War Syndrome, do you continue to believe, as you wrote in USA Today, that it was unjustified for the United States government to study this further?

MR. MATTHEWS: I object to the form.

A. I would again point to the fact that this is speculative, that it is "may."

In terms of unjustified to study it

further, I think that if, indeed, there were sufficient evidence that there was exposure of this type, I would want to study those 100,000 men who were -- troops who were exposed as opposed to looking at all Gulf War veterans to see if, indeed, there was an unusual frequency of disease in that group compared to the rest of the veterans. So that would be a very minor area of exploration based on this "may" possibility.

Q. Could you look at the bottom of the first page of this.

MR. MATTHEWS: Is this 5?

MR. GROSSMAN: Of Exhibit 5.

Q. It indicates that, "The depot containing nerve gas was blown up by an battalion of American combat engineers who had not been warned that intelligence information gathered by the CIA suggested that the site had been used by the Iraqis to store chemical weapons," is that correct?

A. That is what it says.

Q. You haven't done independent work on this, is that correct?

A. No.

Q. You haven't made any efforts to determine whether, in fact, the American veterans who you said had a phantom illness were in fact exposed to nerve gas, is that correct?

MR. MATTHEWS: I object to the form.

A. I stand by the fact that it's a phantom illness. And, indeed, the opportunity, as presented here, is ideal for the epidemiologist, and since there has not been a report since July 24, 1997 that there is evidence of an increased frequency of disease of these allegedly exposed 100,000 men, I remain even firmer attached to this conclusion.

Q. OK. Let's continue. It says, "Defense Department officials, speaking on condition that they not be identified, said the models showed that the cloud of nerve gas initially traveled in a southernly direction from the blast site, eventually spreading over areas of southern Iraq, Kuwait and northern Saudi Arabia where an estimated 98,900 American troops were deployed at the time."

Have you undertaken an independent study on that?

MR. MATTHEWS: I object to the form.

A. I do not undertake independent studies anywhere, and I would not do so, and this to me looks like hearsay.

Q. Hearsay?

A. Yes.

Q. Define "hearsay."

A. In my lay language it means that there is no identifiable source for it, that we do not know whether this is a secondhand report and there is no basis for it.

Q. OK. Now, speaking of hearsay and secondhand reports, can you identify the researchers or scientists at the American Council of Science and Health whose reports to you form the basis of your testimony here today?

MR. MATTHEWS: I object to the form.

A. As I mentioned a number of times, my interest, knowledge and very strong feelings about cigarettes and health have only a small bit to do with the experiences and opinions of the scientists of the American Council on Science and Health. They have to do with my 27-plus years of working on this subject.

Q. Can we agree, then, that in your testimony here today, you will not refer to any of the reports given to you by researchers at the American Council on Science and Health unless you identify what those reports are and who the authors are, and that those reports will not form the basis of your testimony?

A. That is such a complicated question, I don't know how to begin to answer that.

I cannot separate my own views from those of the American Council. I have been intimately associated with the organization. I founded the organization. I am the organization. So I don't know how to separate them out. But if there are cases where I am making a statement that are exclusively mine and are not the declared views of the American Council, I will definitely make them known to you.

Q. I'm not talking about the declared views of the American Council.

You were referring a moment ago to secondhand reports and hearsay, as you referred to it. I'm trying to see whether you are capable of testifying on these subjects without

basing your conclusions on reports that you've received at the American Council from unidentified scientists and that have not been made public.

A. Many of my views, particularly in areas such as the toxicity of lead or on PCBs or dioxin are derived almost exclusively from the work of people associated with the American Council on Science and Health. These views have been absorbed by me because they are the prevailing views of my organization. These scientists are not unidentified. Their names are visible on all of our publications. I could identify them at any time.

Q. Could you identify the work that they provided to you and could you identify precisely which of these people provided work on which subjects?

A. Yes.

Q. Could you make available to us those internal memoranda that relate to these issues?

MR. MATTHEWS: I am going to object to that. Without a specific request that I could object to legally, I am not going to have her testify to whether she can or can't.

Q. Dr. Whelan, returning to, I believe it is Exhibit No. 3, your editorial listed on priorities.

A. Yes.

Q. At the end you say, in the last paragraph, "There may be a profit incentive for pursuing the syndrome. Some 2,000 veterans have joined a lawsuit against both American and foreign companies."

A. Yes.

Q. What companies are those?

A. I believe the only company that I could name that may be involved, and I'm not even sure of that, would be Zeneca.

Q. What is Zeneca?

A. Zeneca is a large chemical company.

Q. Has Zeneca ever provided any money directly or indirectly to the American Council on Science and Health?

A. Yes. They are listed among our funders that contributed somewhat under 1 percent of our funding.

Q. When you say they are listed among those who contribute somewhat under 1 percent, you mean they individually contribute less

than -- about 1 percent or they are among a group that contributed about 1 percent?

A. They individually, the company itself.

Q. Zeneca?

A. Zeneca.

Q. And they are responsible for about 1 percent of your --

A. Approximately, yes. Mm-hmm.

Q. Dr. Whelan, have you taken any courses on public health in the last 25 years?

A. No.

Q. I think you've said earlier in other circumstances that the only courses you've taken in the last 25 years are to go to cooking school?

A. Correct.

Q. Were those in cooking healthier food or tastier food?

A. Cooking healthy, tasty food.

Q. High-fat French food?

A. Exactly.

Q. I assume you enjoyed that?

A. Yes.

Q. It is a risk you are willing to

accept?

A. I don't believe that there is a risk.

MR. MATTHEWS: I object to the form.

Q. Doctor, you said a moment ago that you were the founder of the American Council on Science and Health?

A. Yes.

Q. And in fact, I think the transcript shows that you said you are the American Council on Science and Health.

Now, let me see if I understand exactly what the American Council is.

Was it founded by you or by a group of people?

A. I was the -- I had the idea to form the organization. Before I formed it, I assembled a group of prominent physicians and scientists who -- to assume directorships before I could apply for the legal status to create the group.

Q. Now, there are ten or so paid employees?

A. Ten to fifteen paid employees, yes.

Q. Your offices are here in New York on Broadway?

A. Correct.

Q. You have a Board of Directors of 15 or so people?

A. That's correct.

Q. Exactly how many are on the board, do you know?

A. At this point I believe there are 16. I would have to count on the letterhead.

Q. Now, one of the board members is a man named Raymond Gambino?

A. He's no longer a board member.

Q. He was on the board?

A. He was.

Q. And he was with Corning Clinical Laboratories?

A. He was. I didn't have any contact with him so I don't know the gentleman.

Q. Another member of the board is Henry Miller?

A. Yes.

Q. Who is Henry Miller?

A. He is a former officer of the Food and Drug Administration. He is a physician. And he now is an academic physician out of the Hoover Institute in Palo Alto, California.

Q. The Hoover Institute is a conservative thinktank?

A. I think that is as best described, yes.

Q. There is a man on the board named Albert Nickel?

A. Correct.

Q. He is with a group called Lyons Lavey Nickel & Swift?

A. Yes.

Q. What are they?

A. That is a small pharmaceutical advertising establishment.

Q. And there is a man named Ravenholt, is that correct?

A. That's correct.

Q. Who is he with?

A. Dr. Ravenholt is semiretired and has his own consulting group in Seattle, Washington. He was formerly with the Agency of International Development and I believe he also served with the Food and Drug Administration and advised many of the national public health agencies.

Q. There is one other group called

Population Health Imperatives?

A. That is his own consulting group, yes.

Q. Another member of your board is Frederick Stare?

A. Correct.

Q. Through the Harvard School of Public Health?

A. That is correct.

Q. A man of great integrity?

A. Yes.

Q. His research wouldn't be influenced by the donor of the grant for his research, would it?

A. No.

Q. So if he did research for the Council on Tobacco Research, the fact that he accepted money from the CTR and did research sponsored or funded by them would in no way influence the quality of his work, isn't that correct?

A. That's a hypothetical question. I couldn't relate this individual Dr. Stare to doing tobacco research and what year you are talking about might influence it, so I really can't answer that question. Sorry.

Q. Are you familiar with any work by Dr. Stare that has ever been influenced by the donors or by the funders of his work?

A. No.

Q. Do you have any reason to believe that -- and I can tell you that Dr. Stare has published articles that -- in peer review journals indicating that funding came from the CTR, from the Council for Tobacco Research.

Do you have any reason to believe that those articles were anything less than good science?

A. I am not familiar with the example you are giving. But I have no reason to believe that anything that Dr. Stare ever published was anything but excellent science.

Q. All right. Now, the purpose of your council is to influence public opinion, isn't that correct?

MR. MATTHEWS: I object to the form.

A. No, the purpose of the council is to provide the media and ultimately the consumer with sound scientific facts about nutrition, public health, the environment, lifestyle and as how it relates to avoiding premature disease

and death.

Q. You sometimes refer to yourselves as a consumer organization, isn't that correct?

A. We are a consumer organization, yes.

Q. Let's just get our terms straight.

There is a -- what is a consumer?

A. A consumer is everyone, because everyone consumes.

Q. Well, when you use the term "consumer" and you yourselves identify yourselves as a consumer organization, you differ from other well known consumer organizations -- let me rephrase this.

Does most of your funding come from people who purchase products or people who manufacture and sell products?

A. They are not mutually exclusive. I would say all of the people who fund us consume products.

Q. Exxon consumes products?

A. Exactly.

Q. So Exxon is the kind of consumer that you are referring to when you refer to yourselves as a consumer organization?

A. No, not at all. We refer to

ourselves as a consumer organization because ultimately we are trying to improve the health of the American consumers, and they are --

Q. All right.

A. That means the population generally.

Q. Let's get back to my earlier question, then.

Does most of your funding come from people who generally consume products or people who manufacture and sell products?

MR. MATTHEWS: I object to the form.

A. Both.

Q. Well, when you say "both," are you defining Exxon as a group that consumes products?

A. Well, Exxon Corporation purchases products, as well.

Q. And so you include them within "consumer" as you use the term "consumer" to define yourself as a consumer organization?

A. No, I believe that your question is merging two different issues. You asked me what I meant by consumer, and I said our constituency is the consumer. We address our message via the media to the consumer, which is

all American consumers. Now you are asking me about support, which has nothing to do with consumers.

Q. Does most of your funding come from individuals who are purchasers of food and clothes and pharmaceuticals and alcohol, or does it come primarily from the manufacturers of food, alcohol, sweeteners, flavorings, artificial seasonings and flavorings, chemicals and the like?

A. Our funding comes from two primary sources, neither of whom are consumers in the sense that they are individuals. The two primary sources are private foundations and a diverse number of corporations.

Q. Now, when you refer to the foundations, some of those foundations are foundations that were established by corporate entities, is that correct?

A. When I talk of foundations, I'm talking about private, noncorporate-related foundations. For example, I wouldn't call the General Mills foundation a foundation. But I would call the John M. Olin Foundation a foundation and I would call the -- as I would

call the Charles and Stuart Mott Foundation a foundation, it is private family money. Given in this country that all money is ultimately generated form corporate enterprise, all these foundations are ultimately connected with some corporate foundation. Back then whether it was the Charles Stuart Mott Foundation, in connection with General Motors, or the John M. Olin Foundation in connection with Olin Chemical Corporation, but a foundation -- my definition here is a private foundation that is not currently involved in commercial enterprise.

Q. Let's go through some of your major contributors, if we could.

American Cyanamid Company?

A. They no longer exist. So they are not a founder any more. They are assumed by American Home Products.

Q. Does American Home Products currently exist as a funder for you?

A. Yes, it's one of our four major funders.

Q. What do they make?

A. American Home Product?

Q. Yes.

A. They make a diverse array of pharmaceuticals, medical devices, pesticides, agricultural chemicals, over-the-counter medicines; many, many products.

Q. Archer Daniels Midland Corporation?

A. They are not funding us.

Q. They have in the past, have they not?

A. If they have, it was a very minor. They are not on my radar screen right now so I don't keep up with them.

Q. You said American Home Products is one of your four biggest funders. Who are the other three?

A. The other three are Bristol Meyers, Pfizer and Johnson & Johnson. Even in those cases, they account for less than five percent each of our budget.

Q. Not in aggregate but each, is that correct?

A. Each -- I haven't figured that out.

Actually, under 3 percent each. Under 3 percent each.

Q. The four of them account for 10 percent of your budget?

A. Let's see, that's right. Yes, the four of those would account for ten percent of the budget.

Q. And those four are all pharmaceutical companies that manufacture other things as well, is that correct?

A. They are all pharmaceutical companies and they do a variety of other products, yes.

Q. All of them have some product liability litigation, are you aware of that?

A. Oh, yes.

Q. And occasionally they defend that litigation on the ground that the individual in question probably got his disease from smoking rather than their product?

MR. MATTHEWS: I object to the form.

A. I've never heard in any of those cases that ever had that line of reasoning ever in my life, no.

Q. How about oil and gas companies? Are you funded by any oil and gas companies?

A. Yes, we have small funding from the Shell -- from Shell and Exxon.

Q. Chevron?

A. No.

Q. In 1992, wasn't Chevron one of your funders?

A. That's correct. They no longer are.

Q. But they were at one time?

A. They were because they were in the pesticide business then.

Q. What other pesticide companies are your funders?

A. Monsanto. I think they are call Solution now. FMC, duPont, Ciba-Geigy, Zeneca.

Q. What percentage of your budget comes from pesticide companies?

A. I'm guessing now, but perhaps 10 or 12 percent.

Q. Now, you also received some funding from other chemical companies, is that correct?

A. Possibly. I think I pretty much named them all.

Q. What other kinds of companies fund you?

A. We have a small amount of money from the food industry, which those few companies that are not owned by cigarette companies.

Q. And which food companies does that include?

A. That would include General Mills, Kellogg, Gerber.

Q. And they account for what, 5 percent of your funding?

A. 5 or 7 percent.

Q. Now, you also received some funding from alcohol companies, or you have in the past, is that correct?

A. Yes.

Q. Seagram's?

A. Seagram's, yes.

Q. Who else?

A. Seagram's, Heublein.

Q. Who else?

A. Brown & Foreman.

Q. And what percentage of your funding comes from alcohol companies?

A. I would say about 3 percent.

Q. Now, you've also received some funding from companies that manufacture food coloration and flavorants and additives, is that correct?

A. That is correct. I can't be specific because I don't know which ones those are.

Q. But you know that you received such

funding?

A. Possibly.

Q. You know you have in the past?

A. I'm not sure that I have, actually. I don't know who makes those things.

Q. Have you received money from the National Soft Drink Association?

A. Yes.

Q. Coca-Cola?

A. Yes.

Q. What percentage of your funding comes from soft drinks and sugars and sweeteners?

A. 5 percent.

Q. What other kinds of industrial and consumer companies have provided you with funding over the years?

A. We have approximately 300 different corporate funders ranging in gifts from $1,000 -- or $500 up to, I mentioned a couple of them -- four of them in the 25,000 range and there are perhaps 300 of them.

Q. Now, you've also received money -- by the way, what percentage of your income comes from soft drinks, sugar and sweeteners?

A. Again, I have to know what you mean

by that. We received $10,000 from the soft drink association, 5,000 from the sugar foundation and then 5,000 from Coca-Cola, it is very small so I would have to add it up. So I guessed 3 percent.

Q. 3 percent?

A. Approximately.

Q. Are you personally involved in soliciting funding from those companies?

A. Yes, unfortunately, I am.

Q. Is that a big part of your job?

A. Unfortunately, it is.

Q. You've also received some funding from paper and pulp processors, is that correct?

A. If I have, we no longer do, that I know of, and --

Q. Georgia Pacific?

A. We haven't been funded by them maybe for ten years.

Q. You have at one point, isn't that correct?

A. Perhaps.

Q. Perhaps?

A. Perhaps, because I would have to go

back and look in my files. They are not a player in my organization.

Q. Not a player. Who are the players?

A. The players, I'm talking about -- I mentioned a few, couple of hundred of these corporations that give us between 500 and $25,000.

MR. GROSSMAN: I think this is probably a good lunch hour. It is 12:15.

MR. MATTHEWS: OK.

MR. GROSSMAN: We can go off the record.

(Discussion off the record)

(Luncheon recess)

AFTERNOON SESSION

1:15 p.m.

ELIZABETH M. WHELAN, resumed.

BY MR. GROSSMAN:

Q. Dr. Whelan, the American Council on Science and Health has taken a formal position on formaldehyde, is that correct?

A. We did nearly 20 years ago. We have no position now.

Q. You've never changed your position since then, is that correct?

A. We have don't standby. It expired after a year. We haven't kept up with the literature.

Q. Do you put an expiration date on your opinions?

A. We do not in any formal way, no, but when we are asked about it we say we have no position on it.

Q. I see. As of what date did you start saying that you had no position on it?

A. Generally after like two or three years if we have not updated something, we tend to not keep it on our collection of publications. It is no longer listed, for

example, on our brochure.

Q. OK. Well, I am not referring to your brochure. I'm referring to a brief that you filed with a United States court. Are you familiar with that?

A. Yes.

Q. In -- you filed a brief as a friend of the court, taking a position that formaldehyde was safe when used as a building insulator, is that correct?

A. I don't remember it. I stand by whatever our amicus brief was. I know we did file one and I know we said it was safe when used as it was currently used. I don't remember any of the details. I think it was about 18 years ago.

Q. Let's see if we can narrow this down.

Dr. Whelan, you personally were not a plaintiff or defendant in the lawsuit in question, is that correct?

A. No.

Q. That's correct?

A. That is correct.

Q. That is to say also the American Council on Science and Health was not a

plaintiff or defendant in the lawsuit?

A. No.

Q. But as a stranger, a friend of the court, so-called friend of the court, as a stranger to the proceeding, you filed a brief in that lawsuit, is that correct?

A. That is correct.

Q. The brief was filed with the United States Court of Appeals for the Fifth Circuit in Atlanta, is that correct?

A. I will accept that, yes.

Q. Now, the case involved a ban by the Consumer Product Safety Commission on all sales of urea formaldehyde insulation in homes and schools, is that correct?

A. As I said it was 18 years ago. I stand by what we did. I don't recall all the details of it.

Q. Let me hand you what I will have marked for identification purposes as Whelan Exhibit No. 6.

(Defendant's Exhibit 6 marked for identification)

Q. Dr. Whelan, I have handed you what has been marked for identification purposes as

Exhibit No. 6. That is a copy of a front page article from the Washington Post, June 3, 1984. Do you recall that article?

A. Yes, I do.

Q. You recall it was on the front page of the Post?

A. I didn't recall that, but I am very impressed.

Q. You recall that the article said that the American Council on Science and Health filed a friend of the court brief in a Formaldehyde Institute lawsuit seeking to overturn a federal ban on formaldehyde insulation?

A. Yes, I see that.

Q. Do you recall the article said that the 45-page brief that was entered under the name of the American Council on Science and Health, as a nonprofit national consumer education association, was in fact paid for 100 percent by Georgia Pacific Company, which is one of the leading manufacturers and users of formaldehyde?

A. This is partially true. May I explain what the full truth is?

Q. Why don't you go ahead.

A. OK. The American Council on Science and Health at the time had a position statement which the scientific board had approved on the safety of formaldehyde. We entered that as the basis for our amicus brief.

We certainly do not have the funds, did not have the funds to turn that into legalese, to take the form of the amicus brief, and we were given an in-kind gift of a Washington law firm to turn our position into the legalese necessary to take the form of the amicus brief. There was nothing more to it than that. I mean --

Q. You say you were given an in-kind gift of a $40,000 brief by the Washington office of Squire, Sanders & Dempsey based in Washington?

A. We were given an in-kind gift of the services of that firm to use our position, independent position on formaldehyde and to put it in the form that would be suitable as a submission as an amicus brief.

Q. Now, another way of saying that is that Georgia Pacific Company, which was a

manufacturer of formaldehyde, paid for a brief in support of their position signed by your organization?

MR. MATTHEWS: I object to the form.

A. I would not put it in that way. The amicus -- the brief was completely the work of the American Council in terms of the scientific basis for it. The Formaldehyde Institute or Georgia Pacific, whichever it was here, apparently offered us an in-kind gift to help us package it in a way that it could be used in the law firm. But it existed. It was ours. So they didn't pay for the opinion or the science. They paid for the packaging of it in the form of the brief.

The person who wrote this article, Howie Kurtz, has made a history of doing front-page various articles on the American Council on Science and Health to attempt to bring us down. This is one of many he has done on us and continues to do on us. He is fixated with the Council and its success. He is not a neutral person by any means and he was trying to make us look bad, and perhaps he did.

Q. He is out to get you?

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A. Well, he is out to try to prove that we are not honest people, and he does it by doing articles like this. He is the media reporter for the Washington Post as of today and he still does this. This is something that he --

Q. Now, there are other publications that have a history of publishing negative things about your organization, too, aren't there?

A. Yes. Any organization that can't deal with our scientific realities has to go to the ad homineous attack and go through this routine, but there are really very few of them.

Q. What would the others be?

A. The Colombia Journalism Review did an article along the same line. Coincidentally, it was also by Howard Kurtz.

Q. And who else?

A. Consumer Reports did an article claiming that our funding biased our results, without any evidence; the Ralph Nader people, who for years have been hounding at us about funding. This is all a deflection to keep away from the scientific debate of what the issue at

hand is.

Q. Apart from Consumer Reports, which Ralph Nader people are you talking about? He has been affiliated with a number of organizations.

A. Yes. The ones that are under his umbrella that have been attacking us include The Center for Science and The Public Interest and The Health Research Group.

Q. So are those who have been attacking you, who you view as being out to hurt your group, include the Colombia Journal Subpoena Review, Consumer Reports, Center for Science and Public Interests, and what was the last one?

A. The Health Research Group.

MR. MATTHEWS: Object to the form.

A. And I didn't mean to say that the Colombia Journal Subpoena Review is an organization. I said there was an article published by this Howard Kurtz, and that the American Council on Science and Health is a very frequent target of attack by individuals who want to convince us that the world is filled with carcinogens and there is a toxin on

every plate. The only way they know how to deal with us in a public forum is trying to undermine our credibility.

Q. So now, Consumer Reports is a publication of the Consumers Union based in Mount Vernon, New York?

A. That's correct.

Q. They are a group of purchasers and end-users of products, otherwise known as consumers as opposed to manufacturers, is that correct?

MR. MATTHEWS: Object to the form.

A. That is characterizing them as being much more benign than they are. I believe they are an ideological left-wing group that has great antipathy and obsessive hatred for American corporations.

Q. They are the publishers of Consumers Reports that rate things like washing machines and cars and stereo equipment?

A. That's right.

Q. And it was in their Consumer Reports rating washing machines and dish washing detergents and such that this attack on your organization appeared?

MR. MATTHEWS: Object to the form.

A. This attack on my organization, which is one of many and one of many that we have survived and that thrived on, occurred in the magazine Consumer Reports.

Q. How many members are there in the Consumers Union? How many are true consumers?

A. I don't know.

Q. Isn't it in the millions?

A. Could be.

Q. And there are a million consumer members of the Center for Science and Public Interest, is that correct?

A. There are approximately 1 million subscribers to their newsletter. I'm not sure that would characterize them as members.

Q. And you have 5,000 members in your organization?

A. We are not really a membership organization. We have 5,000 or so subscribers to our publications, but we don't look to have a membership per se.

Q. Primarily corporations and foundations?

A. No. Those aren't the corporations or

foundations. Those would be individual dietitians or physicians or biochemists who would seek to get our material. I'm not sure there are 5,000. There could be somewhat less than that.

Q. Back to Georgia Pacific, in fact, Georgia Pacific did pay for a brief that was submitted to the Fifth Circuit under your company's name, is that correct?

MR. MATTHEWS: Object to the form.

A. No. As I said, Georgia Pacific and/or the Formaldehyde Institute gave the American Council an in-kind gift of the legal services of a firm which worked with us to transform our previously held position into legal format.

Q. Let me see if I understand that. The brief cost $40,000, is that correct?

A. The legal fees were $40,000.

Q. And the $40,000 were not -- never went to the American Council itself, is that correct?

A. I believe it did go to the American Council itself and we forwarded it right on to the group. This report to Howie Kurtz at the

Washington Post was filed by a dissident employee who had recently been fired and he claims that there was some confusion as to whether he forwarded the check or didn't forward the check. There was a check for $40,000 to cover legal fees, and it came into our office and we forwarded it because it was an in-kind grant to the firm.

Q. So is it correct that you don't recall whether the check passed through your hands or not, but, in any event, the full amount of the brief was compensated for by Georgia Pacific?

A. No. The full amount of the legal work on the brief, they did not cover the cost of the preparation of the scientific position on it. They paid the lawyers' fees for us.

Q. Did the Georgia -- did Georgia Pacific or the Formaldehyde Institute see drafts of the brief before it was submitted to the court?

A. I don't know.

Q. Did their name appear anywhere on the brief?

A. I don't think so. No.

Q. Did the brief in any way indicate that you had received an in-kind gift from Georgia Pacific to pay for the legal costs involved in the preparation of the brief?

A. I don't believe it did, though they were listed as a funder in that year's annual report.

Q. But not with the Fifth Circuit, not with the court, is that correct?

A. No.

Q. They were just listed as a funder without regard to the amount of their funding or the nature of their funding?

A. The in-kind gift, yes. We receive a number of in-kind gifts of publishing services and we simply list people as general funders.

Q. What other in-kind gifts of the publishing services have you received over the years?

A. Very often when we don't have the funding to run off, for example, our scientific directory, which carries the resume of our 300 scientists, we provide camera-ready copy to a large corporation that may have an idle press at the moment and will run it off for us.

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Q. Which corporations have done that for you?

A. I know American Cyanamid did that for us once when they were still in existence. I think the Gerber Company did it another time.

Q. What other kind of in-kind gifts have you received from companies over the years?

A. We've received office equipment, office furniture.

Q. Has any company ever paid for, through an in-kind gift or otherwise, any press release that you've ever issued or any report that you've ever issued?

A. No. No, they do not pay for press releases or reports. And other than these rare exceptions, we make it a habit of not accepting designated funds from corporations. They must put the funds in our general operating budget.

It was difficult in this case, with $40,000, such a large amount of money relative to our small budget, we did not want to have it unaccounted for, and that is why we made a note that it was an in-kind gift.

Q. Now, by 1987 the EPA had classified formaldehyde as a probable human carcinogen

under conditions of high exposure. Do you recall that?

MR. MATTHEWS: Object to the form.

A. I do not recall that nor am I least impressed by the EPA's designation because of the word "carcinogen," because they are not cancer scientists and they have a very long history of misusing the term "carcinogen," though they often get it right.

Q. Doctor, let's look at some of the other areas that you've issued public statements, if we have. The American Council of Science and Health filed a friend of the court brief in the Cipollone case on smoking and health, do you recall that?

A. Yes.

Q. Did someone on your staff write that brief?

A. No. Again, it was a situation where an outside party prepared the legal, provided the legal fees, and based on our positions on smoking. I believe the person, I believe it was Richard Daynard.

Q. Richard Daynard was the one who suggested that you file such a brief?

A. He invited -- asked me if I would be interested and I said I would be very interested, and he said he would assist in transforming our scientific position into the legal status.

Q. He invited you to file a brief in the name of the American Council of Smoking and Health?

A. Science and Health.

Q. Science and Health, I am sorry.

He not only suggested that you file such a brief, but he then set out to write the brief himself, is that correct?

A. Well, I think what we need to make clear here, I would use this analogy: If someone in France wanted me to submit something based on our opinion on smoking or formaldehyde and they wanted it in French, then I'd have to hire someone to translate it into French. That is the equivalent of what was done in these two cases, that it was translated into the language necessary for presentation to the court.

Q. What are PCBs?

A. PCBs stand for polycholrinated biphenyls. They are chemicals that are

byproducts of a number of industrial processes.

Q. Your organization has recently published a position on PCBs, isn't that correct?

A. We have published positions on PCBs for the last 15 years, and we now have a relatively new document on that subject.

Q. What have your positions on PCBs been?

A. Generally, that PCBs in the environment in the United States today pose no known hazard to human health, that investing large sums of money to remove them, for example, from the Hudson River, is lacking in cost/benefit arguments because they would naturally dissipate and they should be left alone.

MR. GROSSMAN: Let's mark this as Exhibit 7, if we may.

(Defendant's Exhibit 7 was marked for identification)

Q. Dr. Whelan, let me hand you what has been marked for identification purposes as Whelan Exhibit No. 7, which is a 72-plus page manuscript entitled, "PCBs: Cancer

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Dose-Response Assessment and Application to Environmental Mixtures" from the National Center for Environmental Assessment, Office of Research and Development, U.S. Environmental Protection Agency in Washington.

If I may turn your attention to page VI, it says, "PCBs also have significant ecological and human health effects other than cancer, including neurotoxicity, reproductive and developmental toxicity, immune system suppression, liver damage, skin irritation, and endocrine disruption."

Do you agree with that?

A. No, I do not.

Q. At page 3?

MR. MATTHEWS: Roman numeral 3?

MR. GROSSMAN: Regular.

Q. The EPA says, "PCBs can accumulate selectively in living organisms. PCBs are highly soluble in lipids and are absorbed by fish and other animals."

Do you see that?

A. Yes.

Q. Do you agree with that?

A. That is outside my area of expertise.

I have no comment on that.

Q. On page 4, it says, "Nursing infants are, therefore, an important potentially highly exposed population."

Do you agree with that?

A. No.

MR. MATTHEWS: I am sorry. Could you read that statement again?

MR. GROSSMAN: Yes.

Q. "Nursing infants are, therefore, an important potentially highly exposed population."

MR. MATTHEWS: Let me object to the form of the question.

MR. GROSSMAN: I will rephrase the question.

Q. Doctor, do you see on page 4, it says, "Average daily intake of PCB by human via ambient air is about 100 nanograms?"

A. Yes.

Q. Do you agree with that?

A. No. No.

Q. Then it says, "Average daily intake via drinking water is less than 200 nanograms."

Do you agree with that?

A. I don't know what the level of ingestion of drinking water is.

Q. It says, "Average daily intake for a 5-kilogram nursing infant would be about triple the average adult intake, and approximately 50-fold higher when adjusted for body weight."

Do you agree with that?

A. I would have to do the calculations. I would agree with it. I don't see any health significance of that statement.

Q. You don't believe the fact that nursing infants may have a far higher intake of PCBs has a substantial health effect?

A. I do not believe --

MR. MATTHEWS: Object to the form.

A. -- as I stated before, there are any health effects currently in the environment of exposure in children, infants to PCBs.

Q. Does the American Council on Science and Health currently, or has it formerly, received funding from any manufacturer that has placed PCBs in the environment?

A. The only funder that is even remotely related to PCBs is General Electric, which last year gave us $10,000 a year which would be

under 1 percent of our budget.

Q. General Electric was cited in a Schenectady plant for placing PCBs in the Mohawk and Hudson Rivers, is that correct?

MR. MATTHEWS: Object to the form.

Q. They were required to spend substantial amounts of moneys in cleaning up the Hudson of PCB, is that correct?

MR. MATTHEWS: Object to the form.

Q. To your knowledge?

A. First, I object to the terminology they placed in there as if they intentionally dumped it in there. It was a chemical -- PCBs were released in some of their electronic transistor, etc., processing, yes. They were required by law to clean it up. Whether that was based on sound science, that order, I would argue with.

Q. All right. What is dioxin?

A. What is dioxin? Dioxin is a chemical byproduct of a number of, again, industrial processes and industrial products, including herbicides like 245T and 25D.

Q. Who is Kenneth Smith?

A. Kenneth Smith is a journalist who

frequently contributes on the American Council's publications. He is a Washington -- he is a writer for the Washington Times.

Q. The Washington Times is a newspaper in Washington, D.C. --

A. That's correct.

Q. -- sponsored by the Unification Church, the Sun Myung Moon group?

MR. MATTHEWS: Object to the form.

A. The Washington Times is a very legitimate, respected alternative to the Washington Post, and I have no idea what relationship, if any, the Moonies have with it at this time.

Q. Wasn't it 100 percent owned by the Moonies, as you had referred to them?

MR. MATTHEWS: Object to the form.

A. It may have at one time. My association with the Washington Times has never made me familiar with who their inspiration or ownership is.

Q. Regardless whether the Washington Times is or was owned by the Moonies, as you refer to them, you look to the quality of the Journalism rather than the ownership of the

paper to determine the propriety of its statements?

MR. MATTHEWS: Object to the form.

A. Yes. I would agree that as a general principle I look to the quality of work and the accuracy and acceptability of an organization's work rather than to their sponsorship or to their origins, the nature of their origins.

MR. GROSSMAN: Let's mark this as Exhibit 8.

(Defendant's Exhibit 8 marked for identification)

Q. Dr. Whelan, I have handed you what's been marked for identification purposes as Whelan Exhibit No. 8, which is a reprint of an article from Priorities, the ACSH magazine.

A. Yes.

Q. It is written by Kenneth Smith?

A. Yes.

Q. Now, this article reflects the position of the ACSH's, does it not?

A. No, not necessarily. Our magazine invites a variety of opinions, and this may or may not represent our opinion. This represents the opinion of Kenneth Smith.

Q. Let me ask you then whether the ACSH has a similar opinion?

A. OK.

Q. The article says, "There is simply no evidence that dioxin is responsible for ill health."

Do you agree with that?

A. Yes.

Q. It also says, "To assume that humans are simply big rodents similarly susceptible to alleged carcinogens requires the same kind of leap of faith it takes to assume that there is no threshold below which a carcinogen becomes benign."

Do you agree with that?

A. Yes.

Q. That is to say, it is your position and the position of the ACSH that the poison is in the dose, is that correct?

A. Yes.

Q. And that a small exposure to a potential toxin should not be viewed as carcinogenic where a very large dose of the same toxin may be carcinogenic, is that correct?

A. Possibly. You know, we are very interested in establishing dose response relationships and look for levels where there is no measurable increased risk; for example, cancer. We have done that for many carcinogens, including exposure to sunlight, for example.

Q. All right. Now, with regard to dioxins, with which your organization agrees that there is no evidence that dioxin is responsible for ill health, let's look at what some others have said.

MR. GROSSMAN: Tab 57.

Q. Are you familiar with Dr. Marilyn Fingerhut of the National Institute for Occupational Safety and Health?

A. No.

MR. GROSSMAN: Can you mark this as 9, please.

(Defendant's Exhibit 9 marked for identification)

MR. GROSSMAN: You are going to be surprised at the first page of this, which is there only to show the cover page.

Q. This is the January 24, 1991, New

England Journal of Medicine, an article beginning on page 22 entitled, "Cancer Mortality in Workers Exposed to 2, 3, 7, 8-Tetrachlorodibenzo-p Dioxin," By Fingerhut, Halperin and many others.

The authors found, on behalf of the Institute for -- on behalf of OSHA, conducted an epidemiological study of more than 5,000 chemicals workers.

Do you see that?

A. Yes.

Q. Are you familiar with this article?

A. No.

Q. Are you familiar with the conclusion of this article, that because dioxins accumulate, it is important to eliminate avoidable exposure to these substances?

MR. MATTHEWS: I object to the form.

A. First of all, we have to note that this study is an occupational study, which is intrinsically different from my comments about trace levels of chemicals in the environment. So it would not be related to our previous discussion.

Second, the conclusion, the study of

mortality among workers with occupational exposure to dioxin does not confirm high relative risk reported for many cancers in previous studies.

Q. There were high relative risks for many cancers reported in previous studies, is that correct?

MR. MATTHEWS: Object to the form.

A. Not that I am aware of. Again, this is a totally different area that we are getting into; this is an occupational exposure.

Q. Thinking then about nonoccupational exposures, in 1994 the EPA issued a report on dioxins, didn't it?

A. Yes, I think they did.

Q. They concluded that dioxin is a serious public health threat?

MR. MATTHEWS: Object to the form.

A. Yes.

Q. Which is directly contrary to your organization's view that dioxin poses no ill health risks?

A. That's correct.

Q. Dr. Whelan, does your organization receive or has it ever received funding from

any corporations that have placed dioxin in the environment?

A. I'd have to be refreshed about which companies placed dioxins, as you say, in the environment. If they include Dow, we received $5,000 from Dow each year. I don't know what other corporation there would be.

Q. Your position is that lead poisoning is not a prominent health concern today, is that correct?

A. Yes. Our position, as just recently released, is that while lead poisoning used to be more of a general public health problem for children in the US, it is now only a problem for very limited portions of the inner cities of this country.

Q. The EPA has required a series of corrosion control treatments for water systems if lead exceeds 15 parts per billion. Have you opposed that?

A. I am not sure we specifically opposed any particular legislation. We just have a position statement talking about lead and the levels at which it can be harmful and the levels which there is no known harm from

exposure.

Q. Now, you're familiar with the Center for Disease Control based in Atlanta, are you not?

A. Yes.

Q. The Surgeon General's office is part of the CDC, the Center for Disease Control, is that correct?

A. Yes.

Q. Let me hand you what I will mark for identification purposes as Whelan Exhibit No. 9.

(Defendant's Exhibit 9A marked for identification)

Q. I'd like to direct your attention, if I may, to page 1, to the following quote: "Lead is an environmental toxicant that may deleteriously affect the nervous, hematopoietic, endocrine, renal, and reproductive systems. Lead exposure in young children is a particular hazard because children absorb lead more readily than do adults and because the developing nervous systems of children are more susceptible to the effects of lead."

Do you see that?

A. Yes.

Q. Do you agree with that?

A. Yes, I do.

Q. On page 4, let me direct your attention, if I may, to another quote.

"The risk of lead exposure" --

MR. MATTHEWS: Where are you?

MR. GROSSMAN: I am sorry. Page 4. The fourth page, which is actually page 144.

Q. "The risk for lead exposure remains disproportionately high for some groups, including children who are poor, non-Hispanic black, Mexican American, living in large metropolitan areas or living in older housing."

Do you see that?

A. Yes.

Q. Now, do you agree with that?

A. I generally would agree with that, yes, though I would have to consult with the authors of our lead report to come up with the level at which it becomes significant. But generally I agree with that, yes.

Q. The CDC has reported that nearly a million children under the age of 6 still have

blood lead levels high enough to damage their health.

Do you agree with that?

A. I'd have to consult our report. I believe we would not agree that it is that high. We believe, as per our most recent review of lead in health which was just published about two months ago, that the level designated by the government as being an elevated and risky level of lead in the blood is -- has been reduced to the point where it encompasses more children than who are actually at risk.

Q. Does the American Council on Science and Health receive, or has it ever received, funding from lead paint manufacturers, manufacturers of paints that once contained lead?

A. Not that I'm aware of. I don't know offhand who makes lead paint or whoever did, and I don't think we ever did get such money, no.

Q. Have you received money from paint manufacturers?

A. No.

Q. Have you received --

A. Unless du Pont makes paint.

Q. Have you received money from chemical manufacturers that made lead solvents?

A. I am unaware of any of them that could be.

Q. Your group has taken the position, a public position on various pesticides, including DDT, isn't that correct?

A. I don't think that the American Council has ever taken a position on DDT.

Q. You have personally, is that correct?

A. I have, yes. I have written a book that had a chapter on DDT.

Q. What did you say in your book with its chapter on DDT?

A. That DDT was the -- it was a synthetic pesticide and, as a synthetic chemical, saved more life by reducing the toll of malaria than any chemical ever invented by man; that there was never any evidence that DDT posed a hazard to human health; that DDT may have been overused and there could have been ecological damage, but that was outside our area, and that there was no reason that DDT was

banned, should have been banned as a health hazard, and particularly in Sri Lanka, Surinam and elsewhere.

Q. Approximately 10 to 12 percent of the funding for the American Council on Science and Health comes from pesticide manufacturers, is that correct?

A. In the area of 10 percent, but zero percent comes from the manufacturer of DDT.

Q. Who is the manufacturer of DDT?

A. Well, there is no domestic manufacturers of DDT now. I think it may have been made by Rohm Haas and exported.

Q. Who made it in the United States when it was legal to make it?

A. I don't think anyone else.

Q. You referred earlier to a Consumer Reports article. That article referred to a March 16, 1992 internal memorandum of the American Council on Smoking -- Science and Health, is that correct?

A. Yes.

Q. And the article said that the ACSH -- let me rephrase that.

As quoted in Consumer Reports, the

internal memorandum said that the American Council on Science and Health would seek more CCC, which is Calorie Control Council, money to help you get out a new sweetener booklet. Later it said that you should ask McNeil Specialty for $10,000 towards the sweetener paper.

Are you familiar with the article quoted in that memorandum?

A. Yes.

Q. Further in the article, it said that the internal memorandum of your organization talked about "meat money" from G.D. Serale, which is a subsidiary of Monsanto, and said that G.D. Serale and Monsanto had given the American Council on Science and Health $105,000; referred to Monsanto as your largest funder.

Do you recall that?

A. No.

Q. Do you recall that the Consumer Reports article quoted the memorandum as saying that?

A. Yes, I do remember that.

Q. Did you, after seeing the Consumer

51770 4413

Reports article, did you check the internal memoranda of the American Council on Science and Health to determine whether the quotes were accurate?

A. I don't think I did check because I think at least a portion of them -- these were quotations in a memoranda to an employee who was raising funds for me at the time, and these were informal communications to him directing him who to call to ask for general operating funds. And I was speaking in shorthand terms to him to raise money so that we could update our booklet on artificial sweeteners.

And the most likely people who would be interested in seeing us update our booklet on that subject would be the Calorie Control Council. So I told him to call them and ask them for some general operating funds. This is all part of overall fund-raising.

Q. Why would the Calorie Control Council be interested in getting out your new booklet on sweeteners?

A. Well, I think they would be interested in an independent review of the safety of sweeteners, because they represent

the interest of diet products.

Q. They already knew your position on sweeteners, didn't they?

A. We had one over the years but there's always new data and we always, again, as I said, don't like to keep things in print if they are over two years old. So we wanted to update it.

Q. They were a likely source because they would believe that you would say that sweeteners, artificial sweeteners, pose no risk, is that correct?

A. If I went to American Airlines and asked them for money to fund my artificial sweetener paper, I don't think they would be too interested. I think there would be a higher level of interest if I went to the Calorie Control Council. When we accept the money, it is on an earmarked basis and it goes into an operating fund, and these funders have no control whatsoever over the outcome of our reports.

Q. Did you check to see whether the internal memo was accurate?

A. I think -- I don't recall ever

checking, no. But I think to date what you have read me sounds accurate with the exception of something about meat and Monsanto, which I didn't understand.

Q. Later in the memo it says, when one of the -- later in the memo, the memo bemoans the loss of funding from Shell Oil Company Foundation, which is a long-time contributor, and the memo quotes you as saying, "When one of the largest international petrochemical companies will not support the American Council on Science and Health, the great defender of petrochemical companies, one wonders who will."

Do you recall having written that?

A. I don't recall having written that in that manner. I was asked that at my most recent deposition, and I tried to check to find that memo at that point. I can't find it. But I have reflected on that and I think that I perhaps did say that with quotations around "the great pretender" -- "the great protector."

I found other occasions where I have lamented the loss of funding. And when I would, for example, go on a major television show and talk about Olestra being safe, or the

salt in Campbells Soup being safe and losing money from Procter & Gamble, and I will basically say if Procter & Gamble will not fund someone, basically defend somebody, who would? That is just a statement. I think that sounds like a reasonable thing that I did say.

Q. So you expect that, given the defense that you have given over the years to the petrochemical companies, that the petrochemical companies and their functions would in fact give you money?

MR. MATTHEWS: Object to the form.

A. I would rephrase that. I would say, given the very outspoken and high visibility defense, I and my organization have given to science and defending peer-review science as opposed to the attacks of the toxic terrorists who seem to be around us, given that track record, I would hope that American corporations would support my efforts. When they don't, I am very disappointed and make expressions of lament of that sort.

Q. But it is specific organizations. For example, Petrochemical Corporation, is that correct?

A. Well, again --

MR. MATTHEWS: Object to the form.

A. When I am talking about -- in the media about food additives being safe and that dioxin is not posing a hazard, I don't expect, as I said, American Airlines or Hilton Hotel or Citibank to be sending me funds. The people who would be interested in having these truths made known, these independently documented and established truths, would be the companies that were most directly involved.

Q. Are you familiar with the phrase "cancer hot spots?"

A. Yes, I am.

Q. What are "cancer hot spots?"

A. It's a general term that would refer to the scientific concept of cluster, an increased -- an apparent increased frequency of cancer or cancer deaths in a given area.

Q. What areas of the country have been identified in the literature as cancer hot spots?

A. Probably the only one that I can say, in the scientific peer-reviewed literature, I would say there would be cancer hot spots in

areas where people living there are exposed to ultraviolet rays, that there would be an increase in melanoma, skin cancer, if you want to call that a hot spot.

Very often the media will focus on an alleged increase in disease and postulate a cause on the basis of no data whatsoever. So I don't know of any hot spots other than some of the maps of the United States that the National Cancer Institute has done over time which shows variation in the frequency of different types of cancer from place to place. You don't see much lunge cancer in Utah, for example.

Q. Well, the National Cancer Institute's maps show cancer hot spots in certain -- for lung cancer in several areas of the country, including Baton Rouge, Louisiana; Beaumont, Texas; Oakland, California and the Newark area of New Jersey, isn't that correct?

MR. MATTHEWS: Object to the form.

A. I don't have the maps before me, but I am not surprised -- they do show -- I wouldn't call them hot spots so much as a higher than normal frequency of, in this case, mortality from lung cancer. Now, given what we

know about lung cancer, those data are absolutely meaningless without controlling for cigarette smoking.

Q. After controlling for cigarette smoking and after controlling for the number of cigarettes sold in the communities, areas in the vicinity of petrochemical plants have higher incidence of lung cancer than areas away from petrochemical plants, isn't that correct?

MR. MATTHEWS: Object to the form.

A. I do not believe that is correct. I have never, ever seen data that indicated that was correct.

Q. Have you ever reviewed data on the effect of diesel exhaust emissions on lung cancer?

A. I have not. I'm aware of the fact that 90 percent of lung cancer is causally linked with cigarette smoking and the balance is a matter of some conjecture.

MR. GROSSMAN: Move to strike the second part of the response as nonresponsive.

Q. Have you reviewed any literature on diesel exhaust emissions and lung cancer?

A. In reviewing literature on the

causation of lung cancer over the last 20 years, I may have encountered some speculation, but I know of no evidence linking the two.

Q. Have you reviewed the peer-review literature to see if there is a statistically significant risk that has been determined in epidemiological studies on the exposure of diesel exhaust and lung cancer?

A. The first part of the question was have I?

Q. Reviewed the peer-review literature.

A. I have read -- I have in my possession standard epidemiological textbooks that in themselves are the review of the literature right there on the causation of lung cancer. And if you go to one, for example, the one on the causes of cancer by David Schottenfield and Joseph Fraumeni, you will find that, if it is mentioned, that the exposure to petrochemicals near petrochemical plants is either minor or is a total hypothetical risk.

Q. Is it possible to develop adenocarcinoma of the lung in laboratory animals by exposing them to diesel exhaust?

MR. MATTHEWS: Object to the form.

A. I am not familiar with the laboratory studies on that. I am familiar that you can induce cancer in laboratory animals in many ways and in many forms through inhalation and ingestion and high levels of many, many chemicals, natural and synthetic.

Q. You are aware, though, are you not, that, as reported by the Surgeon General, it has not been shown to be possible to induce lung cancer, human style lung cancer, in laboratory animals by exposing the laboratory animals to whole cigarette smoke?

MR. MATTHEWS: Object to the form.

A. Well, I think the obvious answer there is obvious, that animals do not smoke cigarettes and do not expose themselves in the manner that human beings have for the last century. And we have so much evidence on cigarette smoking causing cancer and other disease in human animals, we don't need to revert to the lab to corroborate it.

MR. GROSSMAN: Move to strike as nonresponsive.

Q. I am simply asking, do you have any

reason to disagree with the Surgeon General's reports that have consistently stated that efforts to induce human style lung cancer in animals through inhalation experiments have been negative, they have been unsuccessful in creating lung cancer?

MR. MATTHEWS: Object to the form.

A. I'm not sure I would totally agree with that, given that there have been experiments on beagles in laboratories who have been induced to inhale cigarette matter and at autopsy these animals have been shown to have at least precancerous lesions.

Q. Let me go over that.

You are referring to studies by Oscar Auerbach?

A. Yes.

Q. Those studies by Oscar Auerbach were rejected by the United States Surgeon General as being incapable of being reproduced, is that correct?

A. I don't know that that is the case at all.

Q. Have you reviewed the literature to determine whether that is so or not so?

A. No.

Q. Have you reviewed the methodology that Dr. Auerbach used in his beagle studies?

A. I have, to some extent, with one of the coworkers, yes. And it seemed to me, I am not an expert in that particular type of laboratory methodology, but these particular animals were exposed through inhalation to cigarette smoke and developed precancerous lesions.

Q. Are you aware of efforts that were made to try to replicate those results?

A. No.

Q. Are you aware of efforts by the National Cancer Institute or the American Medical Association to try to replicate those?

A. No, I am not aware and also know it would not be a high priority given we are not looking to estimate the possibility of cigarettes causing lung cancer in humans. We have that evidence. We do not need to go lower in the species hierarchy to prove what we already know in humans.

Q. You don't believe in animal inhalation experiments in general, is that

correct?

MR. MATTHEWS: Object to the form.

A. That is incorrect.

Q. Let me rephrase this.

With regard to inhalation experiments involving diesel fumes, if such experiments consistently demonstrated that one could develop human style lung cancer in laboratory animals by exposing them to diesel fumes, would that confirm to you that diesel fumes cause cancer in humans?

MR. MATTHEWS: Object to the form.

A. Out of context, absolutely not.

Q. Is there any context in which the answer would be yes?

A. If we had some evidence that human populations were exposed occupationally or whatever to high levels of diesel fuels and showed an increased risk of lung cancer, the animal data would only further the support of human observations but they certainly would not replace human observations.

Q. Has not the Surgeon General of the United States indicated that there is a statistically significant increased risk, after

51770 4425

controlling for cigarette smoking, of lung cancer from exposure to diesel fumes occupationally?

MR. MATTHEWS: Object to the form.

A. I am not involved in occupational health. It is not my field. I am only interested in the exposure that a consumer might be experiencing. And this is not relevant to an occupational exposure, and its high dose, long-term parameters are not relevant to consumer exposure.

Q. Doctor, you said a moment ago that you look not to the source of funding for scientific literature but, rather, to the quality of the investigator and the investigation in determining the weight that you want to place on an investigation, is that correct?

A. The quality of the research.

Q. All right. I'd like to ask you some questions about research that has been funded by your group and others.

Now, the American Council on Science and Health, you said earlier, has not engaged in primary original research in epidemiology,

correct?

A. Correct.

Q. Has it funded any outside primary research on epidemiology?

A. No.

Q. Has it ever provided any grants to independent researchers in epidemiology?

A. No.

Q. Has it ever provided any grants to researchers in toxicology?

A. No.

Q. Has it ever provided any grants to researchers in any subject?

A. We don't provide grants to anyone.

Q. Has the American Council on Science and Health ever funded research of any kind that ended up in peer-review publications?

A. We have funded our type of research, which is literature reviews, which have appeared in peer-review publications, yes.

Q. How does a literature review differ from a book report?

A. It's vastly different from a book report. A book report would analyze one particular work. A literature review goes out

51770 4427

and asks the question, "What is the current state of knowledge about this subject;" and you review all available peer-review literature and come up with a pattern.

Q. Now, among your scientific advisers, how many Nobel Prize winners are there or have there ever been?

A. I believe we have one Nobel laureate among our directors at this moment.

Q. Who is that?

A. Dr. Norman Borlaug.

Q. Among those who have written articles on your behalf, are there any Nobel laureates?

A. No. We have not particularly sought out Nobel laureates.

Q. What is the National Academy of Sciences?

A. It's a quasi-government association of scientists that frequently advises Congress on scientific matters. I don't know if it has any formal role.

Q. It is a high honor; membership is a high honor?

A. In some disciplines it is, yes.

Q. Has anyone who has written any

article on behalf of the ACSH been a member of the National Academy of Sciences?

A. Yes. A number of our advisers do list in their bios that they are members. I would say maybe 40 or 50 of them.

Q. Has anyone who has written an article on your behalf been a member of the National Academy?

A. The people who write articles on our behalf are generally interns or research associates or recent doctoral degree candidates who draft things which are then sent to our Advisory Board for review, editing, amplification, etc. So we don't have distinguished people writing the original reports.

Q. You said you're familiar with the Surgeon General's reports. Do you know of any Surgeon General's report on smoking and health that has ever cited to any article written by or on behalf of the American Council on Science and Health?

A. No, it would not be relevant. We are not -- we do not do primary research, as we have established.

Q. Is it also fair to say that the Surgeon General's reports had never cited to anything that you said personally?

A. I've said personally?

Q. Yes.

A. No.

Q. That's correct?

A. They do not cite me in the reports. I have had a close relationship with the surgeon generals over the years.

Q. There is no Surgeon General's report that is ever cited to you, is that correct?

A. Not that I am aware of, no. They cite primary research.

Q. You're familiar with the CTR?

A. Yes. Not intensely familiar, but --

Q. The Council for Tobacco Research?

A. Yes.

Q. It has a Scientific Advisory Board. To your knowledge, how does that function?

A. How does the CTR Scientific Board function? I don't know.

Q. OK. Do you know how people receive funding from the CTR for independent research

projects?

A. No.

Q. Do you know how the scientific Advisory Board determines which potential projects will receive funding?

A. I have no idea.

Q. Do you know what percentage of requests for funding, for grants, are accepted by the CTR?

A. No.

Q. Do you know how much money has been given by the CTR in grants to researchers over the years?

A. No.

Q. Do you know how many projects have been funded by the CTR?

A. No.

Q. Do you know who the grantees of the CTR have been, apart from Dr. Stare, who we discussed a moment ago?

A. No, I don't know them by name. I do not.

Q. Do you know whether any of them have received Nobel prizes?

A. No.

Q. Do you know if any of them have been members of the National Academy of Sciences?

A. No.

Q. Do you know the journals in which the work that was performed by the grantees of the CTR was purchased?

A. No.

Q. Now, in peer-reviewed publications, when a researcher has received a grant for research, the researcher normally indicates the group from which he received the grant, is that correct?

A. It depends on the journal that is doing the publishing. Some have such requirements, some do not.

Q. The Journal of the National Cancer Institute has such a requirement, doesn't it?

A. I believe it does, if the funding was directly set aside for that research project.

Q. And the Journal of the American Medical Association has such, is that correct?

A. Yes, they have such a disclosure.

Q. And the New England Journal of Medicine has such a disclosure?

A. Yes, I believe.

Q. The National Cancer Institute has such a disclosure?

A. I am not familiar with such a disclosure.

Q. Why are those disclosures?

A. I think it is actually a matter of great controversy that they should be there at all. The research should stand by itself. There are some who feel that it is an important factor in judging the credibility of the work being presented. I disagree with that. The people arguing that have prevailed and, thus, the funding is disclosed.

Q. Have you looked to see whether researchers who receive grants from the CTR, the Council for Tobacco Research, have acknowledged receiving such funding in their publications?

A. I have not.

Q. Have you looked to see the organizations that have co-funded research with the CTR?

A. No.

Q. Do you know whether the National Cancer Institute has co-funded such research?

A. No.

Q. Do you know whether the National Institutes of Health have?

A. No.

Q. How about the Public Health Service?

A. Do not know.

Q. How about the American Cancer Society?

A. I do not know.

Q. How about the American Lung Association?

A. I have no knowledge of that.

Q. How about the American Heart Association?

A. I have no knowledge.

Q. Is it fair to say you have very little knowledge of the CTR in general?

A. That's correct.

Q. Your are not prepared to offer any testimony with regard to the CTR, is that correct?

A. That's correct.

Q. All right, Doctor. Over the past decades, cigarette smoke has been analyzed chemically to determine its chemical

composition, is that correct?

A. Yes. I'm not intimately familiar with the chemical analyses of cigarette smoke.

Q. Are you familiar with the number of chemicals that have been identified?

A. Only vaguely. There have been a vast number of chemicals identified.

Q. About 4800 so far in the literature?

A. Perhaps.

Q. You're not familiar with the chemicals that form the greatest part of cigarette smoke, though, is that correct?

A. No, I do not do the analyses of the --

Q. Most of those chemicals are in trace amounts, vanishingly small amounts?

MR. MATTHEWS: Object to the form.

Q. Correct?

A. I'm not sure. I don't know. I have never done the analysis.

Q. How many animal carcinogens are in cigarette smoke?

A. "Animal carcinogen" is a very broad term, which include naturally and synthetic chemicals, so I wouldn't be surprised if a

substantial number are animal carcinogens.

Q. What is an animal carcinogen?

A. It is defined as a chemical that increases the probability of malignant or sometimes benign tumors in laboratory animals when ingested or inhaled or whatever the process in a laboratory.

MR. GROSSMAN: 10.

(Defendant's Exhibit 10 marked for identification)

Q. Doctor, let me hand you what has been marked for identification purposes as Whelan Exhibit No. 10. You recognize that?

A. I do. It is our holiday dinner menu and it is our most famous publication.

Q. Why is it so famous?

A. It conveys a very simple message. It is very understandable by the public. It receives enormous amount of publicity every Thanksgiving. And there is a tremendous demand upon it because it is a consumer-friendly lesson in toxicology which says, among other things, "only the dose makes the poison." Nature abounds in carcinogens and things that cause cancer in laboratory animals, and it

advises people to be more skeptical when they hear the word "carcinogen" as related to chemicals in their food, particularly.

Q. Let's go over some of these chemicals, if we may.

Under "Appetizers," you have "Cream of mushroom soup" in the first and you list hydrazines. What are hydrazines?

A. Hydrazines are naturally occurring chemicals that are found in mushrooms.

Q. And why are they listed here?

A. Well, everything listed here is a naturally occurring chemical which we invited our toxicologist to examine relative to the question, is there any laboratory information about these chemicals regarding toxicity or carcinogenicity and hydrazines. As you can see, toward the end of this article are listed as mutagens and rodent carcinogens.

Q. What is a mutagen?

A. A mutagen is a chemical that is shown to change cellular structure of a chemical. Some people might designate it as a precarcinogen.

Q. What is an animal carcinogen?

A. An animal carcinogen, as I have defined, is generally referred to as a chemical that increases the probability of carcinogenic or even benign tumors in laboratory animals.

Q. Now, under "Rolls and butter," you list, among other things, benzo(a)pyrene; do you see that?

A. Yes.

Q. Benzo(a)pyrene is also listed for a number of other foods here: Coffee, tea, bread stuffing with onion celery, black pepper and mushrooms.

Benzo(a)pyrene is a very common substance in the American diet, is that correct?

A. At very trace levels it is a natural component of a number of different foods and results, I believe, in the cooking process as well.

Q. It occurs in the cooking process of most organics, is that correct?

A. I don't know.

Q. Or many organics?

A. It occurs in the cooking process of at least some, yes.

Q. Whenever any steak is broiled it occurs, correct?

A. Correct.

Q. It occurs both on the surface of the steak and the environment around the steak, is that correct?

A. I don't know about the environment around it.

Q. Have you checked?

A. No.

Q. Is it dangerous?

A. Again, the question "Is it dangerous" comes back to the very essence of the holiday menu. The danger is in the dose and the manner of exposure. We maintain in this publication that benzo(a)pyrene in bread, coffee, pumpkin pie, rolls and tea is not hazardous in that exposure.

Q. What is the exposure in the holiday meal to benzo(a)pyrene?

A. What is the level of exposure? Trace level. I cannot give you the exact amount.

Q. What is the level of exposure to benzo(a)pyrene in a lifetime of eating the American diet?

A. I haven't the slightest idea. I would not want to take that -- it is a trace level of the ingested benzo(a)pyrene.

Q. Is it in sufficient amounts that people should be concerned about?

A. We don't think so. There are those, however, who might caution against eating many charcoaled, grilled foods because of the introduction of benzo(a)pyrene, and there is a suggestion that perhaps in some areas of the world the elevated stomach cancer rate may be related to the manner of the food preparation; for example, in Japan of charring food and eating benzo(a)pyrene.

Q. Let me see if I can walk back from this.

In Japan they eat more raw foods than in the United States, is that correct?

A. I don't know, but they also eat a lot of charred foods as well.

Q. They also eat a lot of preserved foods?

A. Highly salted foods.

Q. Now, I read an earlier section of your deposition that you attributed stomach

cancer in some part to smoking?

A. Correct.

MR. MATTHEWS: Object to the form.

A. Yes.

Q. You do?

A. Yes.

Q. At the turn of the century in the United States, how much smoking had there been of cigarettes?

A. Very little at the turn of the century.

Q. How much stomach cancer was there in the United States at the turn of the century?

A. Well, the answer to your question is we don't know, because we did not keep cancer statistics by site until 1930.

Q. Isn't it true that the Surgeon General and others who maintain cancer information by site have seen a steep decline in stomach cancer over this century?

A. We have seen a steep decline in stomach cancer starting in 1930, that is correct.

Q. The more people smoke, the less stomach cancer there was, is that correct?

A. Not necessarily. I mean, there are competing variables here. We believe that the use of refrigeration and probably antioxidants in food explains the decrease. You can have a number of different effects happening at the same time. The effect of protection from stomach cancer could be so overwhelming from food processing that it would mask any increase that would otherwise be attributable to smoking.

Further, regarding smoking and stomach cancer, for some reason it is a more causally established relationship in Japan than it is here, though it certainly is a risk factor for stomach cancer in the United States.

Q. Well, let me see if I can define this further.

If one were to look at a map of the incidence of lung cancer in the United States during this century, it would show an ascending line, is that correct?

A. The incidence of?

Q. Of lung cancer.

A. Of lung cancer, yes, of course.

Q. The fact of the incidence of lung

cancer has been increasing throughout the century has been attributed to the amount of cigarette smoking up through the 1960s, is that correct?

A. That is the number one underlying cause of the increase, that's correct.

Q. If one were to look at a map of the incidence of stomach cancer through this century, it would show a descending line, is that correct?

A. That's correct.

Q. In fact, lung cancer and stomach cancer form an X from 1930 to 1990, is that correct?

MR. MATTHEWS: Object to the form.

A. It could be described as that.

Q. In fact, in your own writings you have included a chart from the Surgeon General's reports showing incidence of cancer death rates by site from 1930 to 1988, is that correct?

A. Yes.

Q. And it shows that as lung cancer was steeply increasing, stomach cancer was steeply declining, is that correct?

A. Yes.

Q. In fact, in 1988 there was only one sixth as much stomach cancer as there was in 1930, is that correct?

A. That's correct.

Q. Do you attribute the decrease in stomach cancer to the increase of smoking during that period?

A. No, I do not. Unlike the lung cancer, cigarette smoking is not the predominant cause of stomach cancer, and, as I mentioned, there are some other major factors in play to account for the decline in stomach cancer that have nothing to do with cigarette smoking.

Q. Tell me about nitrites. What are nitrites?

A. Nitrites are naturally-occurring chemicals that can form from naturally-occurring nitrates.

Q. In the -- and they can be turned into nitrosamines?

A. In the presence of amines, nitrites can be turned into nitrosamines.

Q. That can occur both in the cooking

process or in the human body itself, is that correct?

A. That's correct.

Q. Should consumers be concerned about the amount of nitrites or nitrosamines that they ingest from the standard American diet?

A. I don't believe they should be concerned about -- generally speaking, concerned about nitrates or nitrites or nitrosamines. There are some exceptions; for example, very young children cannot metabolize nitrites and there can even be a risk of death from very high nitrite food. Generally speaking, I would not urge people to be concerned about nitrites and nitrosamines.

MR. GROSSMAN: This is a good time for a five-minute break.

(Recess)

(Discussion off the record)

MR. GROSSMAN: We are up to 11, I believe.

(Defendant's Exhibit 11 marked for identification)

Q. Dr. Whelan, I have handed you what has been marked for identification purposes as

Whelan Exhibit No. 11, which is an article entitled "Benzo(a)pyrene and Other Polynuclear Hydrocarbons in Charcoal-Broiled Meat."

Do you see that?

A. Yes.

Q. That is from the journal "Science"?

A. Yes.

Q. July 1964.

"Science" is a peer-review journal?

A. Yes.

Q. Very highly regarded one?

A. Certainly.

Q. Do you see on the first page of that, the abstract, it says, "The possible production of carcinogenic polynuclear hydrocarbons in the charcoal broiling of food has been investigated. 15 steaks were cooked and the polynuclear compounds were extracted, separated by chromatography, and identified spectrometrically. Many polynuclear hydrocarbons were identified, but no nitrogen heterocyclic compounds were detected. The carcinogen benzo(a)pyrene was present in the average amount of 8 micrograms per kilogram of steak."

Do you see that?

A. Yes.

Q. Now, you have no reason to doubt that a steak that has been charcoal broiled has an average amount of 8 micrograms per kilogram of steak of benzo(a)pyrene, do you?

A. I have no reason to doubt it, no.

Q. I would like to direct your attention, if I may, to the second page. You see in the first paragraph where it lists, under the Table, it says, "Most notable is the presence of benzo(a)pyrene to the extent of 9 micrograms, (8 micrograms per kilogram). This is the quantity of benzo(a)pyrene in the smoke of approximately 600 cigarettes."

A. Uh-hum.

Q. Now, do you believe that the presence of benzo(a)pyrene in charcoal-broiled steaks makes it dangerous for Americans to eat charcoal-broiled steaks from time to time?

A. No, I do not. I also think there is no reason to make any comparison between ingesting something and inhaling something.

Q. Have you made any study on the benzo(a)pyrene inhalation of broiling or other

broiling of meat?

A. No.

Q. Have you made any study of the benzo(a)pyrene content of the air or anything else that is cooked?

A. No.

Q. Do you have any reason to believe that people who charcoal broiled meat are not exposed to large amounts of benzo(a)pyrene or to benzo(a)pyrene in the air?

A. I have reason to believe that relative to cigarette smoke they are not exposed to high levels of benzo(a)pyrene in the air.

Q. Well, how much benzo(a)pyrene is dangerous?

A. We do not know. We simply do not know. We do not know the exact components of the danger of cigarette smoking.

Q. It is fair to say, is it not, that science has not been able to identify which chemicals in cigarettes are responsible for the observed increase in disease among smokers, is that correct?

A. That is correct, in a sense, but we

should not make the assumption that it is one chemical.

Q. Science has not been able to determine which chemicals, either alone or in combination, are responsible for the observed increase in disease among cigarette smokers?

A. I would add the word "specific." Science has not been able to identify specific chemicals alone or in combination.

Q. That is true with regard to lung cancer?

A. Yes.

Q. It is true with regard to emphysema?

A. Yes.

Q. It is true with regard to chronic bronchitis?

A. Yes.

Q. It is true with regard to heart disease?

A. Perhaps there's more knowledge there. Perhaps the role of nicotine in terms of cardiovascular function -- it is not well-established, as is often the case with making links in public health -- we do not always know the exact biological mechanisms.

That certainly is not a reason to retard us in designating a cause.

Q. I am not asking you that.

Science does not know which chemicals, either alone or in combination, in cigarette smoke may account for the observed increase in heart disease among smokers, correct?

A. We do not know exactly, no.

Q. And the same would be true with regard to all diseases, is that correct?

A. We do not know the exact chemical mechanisms.

Q. Now, the Surgeon General of the United States in the 1964 Surgeon General's report noted that benzo(a)pyrene was in cigarette smoke, is that correct?

A. I don't know.

Q. Do you recall reading that?

A. I don't recall him specifically singling that out.

Q. Do you recall that the Surgeon General of the United States said that there was not enough benzo(a)pyrene in cigarette smoke to account for the observed increase of

lung cancer among smokers?

A. No.

MR. MATTHEWS: Object to the form.

A. I do not remember that, but I will accept it if you say that.

Q. You have no reason to doubt that, is that correct?

A. I have no reason to doubt it or to reinforce it.

MR. GROSSMAN: No. 12.

(Defendant's Exhibit 12 marked for identification)

Q. Dr. Whelan, let me hand you what's been marked for identification purposes as Whelan Exhibit No. 12.

Do you recognize that?

It is an article, by the way, for the record, entitled "Stop Banning Products at the Drop of a Rat," by Elizabeth Whelan, from the Washington Times from December 12, 1994.

A. Yes.

Q. Now, looking at the third paragraph, do you recall writing this? "The phenomenon I call 'mouse terrorism,' defined as a knee-jerk extrapolation from a" -- I am sorry. I am

getting giddy because my partner, I got a kick out of your term "mouse terrorism" out of "A drop of a rat," and I got a kick out of that. Let me go back on this. It is a cute phrase.

A. Thank you.

Q. Going back on the paragraph. The phenomenon that you call 'mouse terrorism,' defined as a knee-jerk extrapolation from a high-dose animal study to a declaration of human cancer risk no matter how low human exposure influences a vast array of federal and local regulations.

Do you recall that?

A. I do.

Q. Do you still believe that?

A. I do, yes.

Q. Could you expand on that?

A. We have laws in this country, including the Delaney clause, which assumes that a mouse is a little man and requires the knee-jerk banning of a food additive if it is known to cause cancer in an animal at any dose. And I believe that is a very poor way to identify potential human carcinogens, and that was one of the examples I was referring to.

We have laws in California, for example, Proposition 65, that requires that chemicals that cause cancer in high-dose animal experiments are forced to be removed from the market or labeled as carcinogens, and I find that is influencing federal and local regulations and it is unsatisfactory scientifically.

Q. Why is it unsatisfactory scientifically?

A. Because if we were to assume that everything that causes cancer in the laboratory, that even at high doses causes cancer in humans at low doses, then everything would be labeled as carcinogenic. We do not reject or I do not reject animal studies to predict cancer risks. What I object to is the use of one study, one species, one dose to make that extrapolation. That is what I am referring to.

Q. In many ways animal tests stack the deck in favor of finding a carcinogen, don't they?

A. That's correct.

Q. They -- to begin with they choose

highly sensitive animals, animals that are bred to be particularly sensitive to chemical exposure, correct?

A. I understand that to be correct.

Q. Particularly these animals are bred to be very responsive to carcinogens, is that correct?

A. I don't know about that aspect of it.

Q. Well, the way the animals are bred, among other things, maximizes the chance of a positive result, as you wrote in this article, is that correct?

A. Yes.

Q. Furthermore, the animal tests employ maximum tolerated doses or MTDs, is that correct?

A. Yes.

Q. That is the largest estimated dose that animals can tolerate without experiencing credible weight loss, is that correct?

A. And experiencing high probability of death, yes.

Q. You believe that the use of a maximum tolerated dose is very much in question, don't you?

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A. I think the maximum tolerated dose should not be the only criterion for making decisions on risk. I'd like to see moderate and low doses examined at the same time as the MTD. I don't necessarily object to the MTD, but if the maximum tolerated dose itself can trigger carcinogenic response, then I'd want to know that by looking at the lower dose.

Q. It is very possible that the physiological events that occur in stressed animals that would not occur at much lower doses are not typical of human exposure, is that correct?

A. I wouldn't use the word stressed.

Q. Could you look at page 108, which is the second page of your article. Do you see that?

A. Right.

Q. I'd like to direct your attention, if I may, to the paragraph second from the bottom. You wrote, did you not, "While using the MTD is standard practice, this procedure is much in question. The central issue is whether dose levels that are nearly toxic in and of themselves can predispose an animal to develop

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cancer. It is very possible that physiological events occur in such stressed animals that would not occur at the much lower doses typical of human exposure."

A. I meant chemically stressed.

Q. I guess using animals that are already ill would be a problem, too, wouldn't it?

A. It would be another confounding factor.

Q. For example, if you were to conduct a test of, an inhalation test using animals, you would not want animals that already had diseased lung to serve as the basis for the test, is that correct?

A. I'm not an expert in designing laboratory tests. I don't know.

Q. Certainly that would make sense to you, wouldn't it?

MR. MATTHEWS: Object to the form.

A. Depending on what you were studying. Maybe you want to look at synergism in an already sick animal. That might be an excellent protocol.

Q. For example, if you were looking to

see if cigarette smoking could cause pulmonary disease, emphysema, asthma, chronic bronchitis, bronchitis, you wouldn't choose animals that already had pneumonia, would you?

MR. MATTHEWS: Object to the form.

A. I am not an expert in animal testing. I don't want to comment on that.

Q. On the next page of this, page 109, you say, "However, there are many reasons to be skeptical about extrapolating from experiments performed under extreme conditions on animals to humans."

Do you agree with that?

A. Yes.

Q. Is that correct?

On the next page you say, "But there are hundreds of chemicals classified as carcinogens in at least one animal test for which it has not been possible to establish that the substance also causes human cancer."

You agree with that?

A. Yes.

Q. Now, in order for an animal test to be extrapolated to human beings, it is standard procedure, is it not, to have the proper strain

of animal, the proper route of exposure, the inhalation or ingestion of the proper substance and the proper target organ?

A. No, it's not. It's not standard.

Q. It should be standard?

A. I think it would help to move toward a better standard, but -- for example, the Delaney clause does require the proper route of ingestion but it does not require the target organ, for example.

Q. Or the proper animal?

A. Right.

Q. But toxicologic tests say that in interpreting animal experiments one can't be -- have great confidence that the animal experiments can be interpolated to humans unless the proper species, proper route of exposure, proper chemical and proper target organ are involved, isn't that correct?

MR. MATTHEWS: Object to the form.

A. I wouldn't say that's correct.

For animal results to be useful to predict human cancer risk, what we need are not only some of the items you mentioned, the route of exposure, for example, but we also need to

have multiple doses that show a dose-response relationship; we need to find data from a number of different animal species, not just, for example, myself or not just rodents, but other guinea pigs or Rhesus monkeys. Then you would begin to see a pattern that might be applicable to man.

What I am objecting to here in this mouse terrorism example is the use of one-animal test, as so often happens, to trigger laws like the Delaney clause.

Q. Let me hand you what I will have marked for identification purposes as Exhibit No. 13.

(Defendant's Exhibit 13 marked for identification)

Q. This is an article -- I have handed you what has been marked for identification purposes as Exhibit No. 13. This is an article entitled "Fighting the 'Mouse Terrorists,'" that you wrote for the Journal of Commerce, is that correct?

A. I think I wrote this for Roll Call. It was printed by the Journal of Commerce, yes.

Q. What is Roll Call?

A. I believe that is a publication that goes to the members of the U.S. Congress.

Q. And your intention in writing it for Roll Call was to influence the Congress, is that correct?

A. Not to influence them, but to bring to their attention this very important issue as they began a new day, if you will, with a new Congress.

Q. Let me read to you the first two paragraphs in that regard. You wrote: "Leaders of the new Republican-led Congress already have outlined an ambitious program for the first 100 days of the 104th Congress. As they look beyond the first 100 days, they should give high priority to an insidious and costly threat: Rodents.

"No, I am not talking about disease-carrying vermin. I am talking about the rodents that reside in our nation's most prestigious research laboratories. These animals, through no fault of their own, have been scaring us to death for more than 30 years while restricting our pursuant of an improved standard of living and a healthier life."

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A. That's correct.

Q. In this article, as in others, you took the position that relying upon rodent testing to determine carcinogens diminishes our lifestyle by diminishing the alternatives that we have by enjoying ourselves through different foods and the like, is that correct?

MR. MATTHEWS: Object to the form.

A. Yes. I think relying on single-rodent studies and the resulting banning or failure to approve useful technologies limits our availability to drugs that might prolong our life, foods that could give us enjoyment and other creature comforts of life.

Q. Do you think that if a rodent study is positive, that is, if a rodent study shows that under certain circumstances given enough of a chemical some animal at some time developed cancer, if under those circumstances the product is not banned, do you think consumers should be given a warning of that -- to that effect --

MR. MATTHEWS: Object to the form.

Q. -- that rodent studies have demonstrated that?

A. I don't believe consumers should be given any warning unless it is really going to be useful to them and grounded in science. To tell them, for example, that Alar causes cancer in a mouse is not useful because we have not told them that the entire Thanksgiving dinner causes cancer in rodents as well.

I think consumers when they hear that something is dangerous ought to ask the follow-up question, "Compared to what?" In order to give a complete answer to the consumer, I think we should put it in context, and that's always been my position in public health.

It is fine to tell me saccharin causes cancer in rats in Canada. Compared to what? What else causes cancer? And when I find out, I am not impressed at all that saccharin is a risk.

Q. So you believe not only that these products in animal tests demonstrate cancer, at least at some exposure and with some species, you believe not only that those products should not be banned from the market, but in addition that no warning should be given to consumers of

the fact that rodent testing was positive for cancer, is that correct?

MR. MATTHEWS: Object to the form.

A. That's correct. I agree that there should not be any warning that rodent testing tested positive for warning because there is no relation to an evidence of a health risk. If there is any evidence of a health risk that we could derive from animal studies and even if there were just preliminary suggestions that the substance is harmful, I would proceed to an interim health warning.

MR. GROSSMAN: 14.

(Defendant's Exhibit 14 marked for identification)

Q. Dr. Whelan, let me hand you what's been marked for identification purposes as Whelan Exhibit No. 14. This is an expert witness disclosure of yours that has been filed in the Tampa cases, included in this deposition. It is filed by the lawyers for the plaintiffs in those cases.

Did you write this?

A. I believe that this was written by attorneys involved in the cases in question

based on all of my many years of writing on tobacco. In other words, using my previously -- previous writings, this was prepared on the basis of those.

Q. Well, I'd like to direct your attention, if I may, to page 27, entitled, "Defective Levels of Carcinogens."

Do you use the term "carcinogens" in your writings?

A. I do, but I try to be very careful how I use it.

Q. How do you use the term carcinogen?

A. I generally qualify the term by using the word animal carcinogen or human carcinogen.

Q. Let's look at page 28 where it says, "At least 43 compounds in cigarette smoke are known carcinogens."

Do you see that?

A. Yes.

Q. It says, "These include compounds in these major groups: Polyaromatic hydrocarbons, eleven various compounds with known animal carcinogenicity, including benzo(a)pyrene, a 'probable' human carcinogen."

Do you know if there are any human

carcinogens in cigarette smoke among the eleven polyaromatic hydrocarbons that have been found, particularly in the doses that are present in cigarette smoke?

A. I do know that some of the natural amines have been known to be human carcinogens, exclusively in occupational settings.

Q. At much greater levels --

A. Much greater levels, yes.

Q. -- than are contained in cigarettes?

A. That's correct.

Q. So you would not identify any polyaromatic hydrocarbons in the proportions found in cigarette smoke to be human carcinogens as of this time, is that correct?

A. That is correct, yes.

Q. "Aza-arenes, four known animal carcinogens," you would not identify any of those in the amounts found in cigarette smoke to be human carcinogens at this time, is that correct?

A. I would not, you're correct.

Q. "N-Nitrosamines, nine known animal carcinogens." Again, you would not identify any of the nitrosamines identified in cigarette

smoke to be human carcinogens at this time, is that correct?

A. That's correct.

Q. "Aromatic amines, three known carcinogens, including 2-naphthylamine and 4-aminobiphenyl," you would not identify those to be human carcinogens in the amounts found in cigarette smoke at this time, is that correct?

A. Correct.

Q. All the aldehydes, including formaldehyde, you would not identify those to be human carcinogens in the amounts found in cigarette smoke at this time, is that correct?

A. Correct.

Q. That would be true of the other miscellaneous organic compounds and inorganic compounds listed here, is that correct?

A. That's correct.

Q. With respect to all of them you would not identify them as human carcinogens in the amounts found in cigarette smoke at this time, is that correct?

A. I would not identify them as such. Again, my familiarity with these trace levels of chemicals is based on ingestion studies.

And our commentary to date, our holiday menu is on ingestion and I am not familiar with the toxicology inhalation at these levels, so I do not know.

Q. To your knowledge, none of these would be human carcinogens in the amounts, the levels found in cigarette smoke based upon what you know at this time, is that correct?

A. True. Yes, I would agree with that. I would not rule out the possibility through synergism and inhalation, as opposed to ingestion, there could be such human risks.

Q. You would not rule out the negative, but you -- you would not rule it out but you certainly do not have proof to the contrary?

A. That's correct.

Q. Did you write that section of this disclosure?

A. I did not write this. And, if it was picked up from some American Council publications of the late '70s on what is in a cigarette, which is, I think, perhaps the source, it is not as exacting as I would be now if I were writing on this, distinguishing animal, human carcinogens, as we discussed.

Q. All right. Very well. Tobacco is an agricultural product, correct?

A. Yes.

Q. Obviously, it is grown. And the farmers who grow tobacco use fertilizers and pesticides, is that correct, to your knowledge?

A. I'm not a farmer. I have never been on a tobacco farm to grow it, so I don't know what they do, whether they grow some with it, some without it.

Q. To your knowledge, are any of the human diseases that have been associated with cigarette use attributable to the use of pesticides or fertilizers in the growing of tobacco?

A. No.

Q. None whatsoever, is that correct?

A. I know of no such linkage, no.

Q. All right. Returning to your expert witness disclosure, you have a section here, beginning on page 27 and ending on page 35, entitled "Defective Cigarette Design."

Do you see that?

A. Uh-hum.

Q. Now, have you ever designed a

cigarette?

A. Never.

Q. It actually begins, by the way, on page 26, even though the index or Table of Contents says 27.

A. Uh-hum.

Q. Would you know how to design a cigarette?

A. I'll say no, but I could also say, what is a cigarette? I could design something that looked like a cigarette that wouldn't hurt anyone.

Q. You could design something that looked like a cigarette and wouldn't hurt anyone?

A. I mean, the question, what a cigarette is. There are those who have marketed tobaccoless products that they call cigarettes.

Q. Such as what?

A. I am thinking of the failed product of ten years ago.

Q. Premiere?

A. The Premiere, right.

Q. Those were smokeless, not

tobaccoless, is that right? That is, they heated tobacco rather than burned it?

A. Yes.

Q. They were unharmful, is that correct?

A. I don't think they were unharmful.

Q. I thought you said --

A. No. The question came up there what is a cigarette.

Q. I see. OK. Now, Doctor, have you made any effort to study the science of cigarette design over the years?

A. No.

Q. Have you made any effort to determine what efforts have been made by tobacco companies to reduce the risks inherent in cigarette smoking?

A. No.

Q. Have you made any effort to determine the costs involved in redesigning cigarettes to make them less risky?

A. No.

Q. Is it fair to say that you will not be offering any testimony at trial with regard to the ultimate designs of various cigarettes?

A. That's correct.

Q. Is it fair to say that you will not be offering testimony as to the relative risks of different cigarettes?

A. That's correct.

Q. Is it fair to say that you will not be offering any testimony regarding defective cigarette design?

A. Correct.

Q. You testified in a previous case called Karbiwnyk, do you recall that?

A. Previous case?

Q. Called Karbiwnyk v. R.J. Reynolds?

A. Yes.

Q. I can tell you I saw you for the first time on videotape at trial in that case.

In that case you testified, as I recall, that you attribute 500,000 American deaths per year to cigarette smoking.

A. That is the number that the American Council on Science and Health attributes to premature deaths from smoking, and I have incorporated that estimate into my own.

Q. Could you tell me the methodology used to determine that number?

A. The methodology is basically one

based on the observed versus expected technique. The methodology and the actual estimates were made by Dr. Ravenholt, who is on our board of advisers. He has been making estimates since, I believe the early or mid-1960s for the U.S. government. I believe he was one of the first ones who revised the Surgeon General estimates on premature death.

Q. The number that you and your counsel have used, the 500,000, is different from the number used by the Surgeon General, is that correct?

A. It is somewhat higher, yes.

Q. It is different from the number used by Richard Peto, is that correct?

A. I have never seen Richard Peto have an estimate for the United States. I know he has done worldwide estimates.

Q. Have you participated in determining that 500,000 number?

A. Not directly, no.

Q. Could you set forth the formula used to determine that 500,000 number?

A. Only in the most general terms. I have available work sheets from Dr. Ravenholt

on his estimates of how to do it. Basically what he is looking for are relative risk ratios for disease apply to find out what excess deaths are in categories. For example, how many excess deaths are there from lung cancer among smokers and nonsmokers, and then down the line and adding up. That is the overview of what he did.

Q. Now, let's see, smokers differ from nonsmokers as a group not just because they smoke, is that correct?

A. This is correct. But he is using relative risk ratios based on a number of studies, and perhaps getting -- maybe he took an average relative risk ratio.

Q. When you say "maybe," do you know what he did?

A. No, I don't know. But I know what went through our peer-review process.

Q. You could not reproduce the methodology for arriving at that 500,000 number as we sit here, is that correct?

A. I couldn't do it because I don't have all my files with me, no. But I could do it if I had my notes, to recreate it.

Q. Now, let's get back to my prior question. Smokers as a group differ from nonsmokers as a group in matters unrelated to smoking, is that correct?

A. That's correct.

Q. For example, smokers as a group have different drinking habits than nonsmokers, correct?

A. That could be. I don't know. But in terms of the subject matter under study we would not perceive that as being necessarily critical in separating out a synergistic effect, for example, in lung cancer.

Q. Well, cigarette smokers are more likely to die in drinking-related automobile accidents than nonsmokers, is that correct?

A. I don't know that to be correct.

Q. If cigarette smokers die in greater numbers in drinking-related automobile accidents than nonsmokers, does your 500,000 number include those smokers who died as a result of drunk driving?

A. I don't know that Dr. Ravenholt had a category for, for violent death or accidents. He would take, again --

Q. Do you know if he did or did not?

A. I don't know that he did.

Q. Don't know one way or the other?

A. That would be under a separate category. I don't know that he would have a contribution related to violence, violent deaths.

Q. You don't know one way or the other?

A. No. I'd have to check my methodology notes.

Q. Cirrhosis of the liver. Cigarette smokers are much more likely to get cirrhosis of the liver than nonsmokers, is that correct?

A. That's correct.

Q. That is not because of their smoking, isn't that correct?

A. That is not correct. We believe the excess deaths are related to cigarette smoking.

Q. So you attribute cirrhosis of the liver to smoking?

A. Yes. As a matter of fact, if I look up in my book right now on the Comprehensive Guide to the Health Consequence of Smoking, I'm quite sure that we would find an independent effect of smoking on cirrhosis of the liver.

Q. Do you know whether the Surgeon General of the United States attributes cirrhosis to cigarette smoking?

A. I'd have to -- I couldn't answer that question that way. To ask the question, would the Surgeon General indicate there are excess deaths from cirrhosis of the liver related to cigarette smoking, I don't know if he did, but I know our epidemiological panel did.

Q. The Surgeon General of the United States has said that there are excess deaths on cirrhosis among cigarette smokers and that that is because they drink more alcohol, isn't that correct?

MR. MATTHEWS: Object to the form.

A. No, that is not correct. What our panel looked at would be relative risks of smokers in given disease categories. In other words --

Q. After --

A. -- after controlling for relevant factoring, and surely a relevant factor for cirrhosis would be alcohol.

Q. What other diseases or forms of death did you include among this 500,000 number, so

far as you can recall?

A. Dr. Ravenholt, as I recall, took some of the standard causes of death using the National Institutes of Health code numbers and as listed in the annual deaths by cause in the United States. So it would be the major causes of death: Heart disease, chronic lung disease, cancer by site.

Q. What else? How about suicide?

A. I don't recall whether he had suicide on the list.

Q. How about violent death such as murder?

A. That would be along with the question of automobile accidents.

Q. Cigarette smokers are more likely to be murdered, aren't they?

A. I don't know.

Q. Have you reviewed studies on that?

A. I have not.

Q. Cigarette smokers are more likely to have -- what other ways do cigarette smokers differ from nonsmokers, that you can recall?

MR. MATTHEWS: Object to the form.

A. I don't know.

Q. How do the dietary patterns of smokers compare with the dietary patterns of nonsmokers?

A. I do not know.

Q. How do the sleep patterns of smokers relate to the sleep patterns of nonsmokers?

A. I don't know.

Q. How would you go about finding that out if you wanted to?

A. There comes a point when you have to ask some common sense questions like, what relevance is this variable and how might it cause a spurious relationship with cigarette smoking?

You want to rule it out before you are making comparisons that are going to yield a relative risk associated with smoking. Sleep patterns, hair color, I mean there come some things that do not merit being controlled for. You go to the things that have a biological hypothesis.

Q. Are you suggesting that people who have -- the largest part of the 500,000 number you have is from heart disease, is that correct?

A. That's correct.

Q. Are you suggesting that people who -- that diet has no relationship to heart disease?

MR. MATTHEWS: Object to the form.

A. It is our opinion at the American Council that diet plays a relatively very minor role in the causation of heart disease, yes.

Q. Is that a consensus opinion of the Surgeon General of the United States?

A. No. I don't know what the consensus opinion is. The Surgeon General has a report that would differ from ours, but I would say that the community, scientific community is pretty much divided on this issue.

Q. In 1988 the report of the Surgeon General indicated that diet plays perhaps the largest role in heart disease in the United States, is that correct?

MR. MATTHEWS: Object to the form.

A. That is absolutely false. No one believes that.

Q. No one believes that?

A. Nobody believes that. An overwhelming majority of physicians and scientists have looked at that and know there

are three controllable risk factors. They are smoking, high blood pressure, high serum cholesterol, and if high serum cholesterol is influenced, if at all, by diet. There is no way that they are talking about diet being a major cause of heart disease.

Q. Are you suggesting that exercise is not a controllable risk factor for heart disease?

A. I am suggesting if it is not up there in the top three, yes.

Q. Do smokers, by the way, differ from nonsmokers in the amount that they exercise?

A. I don't know.

Q. Where would you go to find out?

A. I don't really know. I'd say if there is any kind of demographic profiles of cigarette smokers in the United States.

Q. Do you think there are such profiles?

A. I think there are. I think someone has probably looked at the question: Are cigarette smokers less likely to care about other health risks as well? Yes, I'm sure there are.

Q. Who's written on that?

A. I don't know. I'm saying that I wouldn't doubt that there are such things.

Q. Let me hand you what I will have marked for identification purposes as Exhibit No. 15.

(Defendant's Exhibit 15 marked for identification)

Q. This is a copy of an article that you wrote in Priorities magazine, the magazine of the American Council on Science and Health in 1989, is that correct?

A. Yes.

Q. And at that time you estimated that 200,000 deaths per year were caused by cigarette smoking, is that correct?

A. I would really doubt it.

Q. Second page: "To illustrate this, compare the carcinogenicity of tobacco with that of EDB, a chemical used (before it was banned) to protect certain grains and fruits from insects and microorganisms. Tobacco products caused over 200,000 cancer deaths in the United States each year."

Do you see that?

A. That is a typo. Maybe when we got on

to the Internet it got scrambled, but that is a typo.

Q. That is a typo?

A. Since I have returned to the organization I have never used under 400,000.

Q. That accounts for that. I see.

Well, you can't reproduce the method by which you determine the 500,000 number, and the method was developed as well as used by Dr. Ravenholt, is that correct?

MR. MATTHEWS: Object to the form.

A. It is a standard method of attributable risk, quantitating attributable risk which he developed. As I mentioned, I engaged him and others to come up with this estimate using a standard formula for attributable risk.

Q. When you say it is a standard, that he developed?

A. It is not a standard form that he developed.

Q. Where is this attributable risk formula published?

A. I have in my office a textbook of health education epidemiology. I cannot give

you the name of it right now, but it has a full section on attributable risk and how to do these estimates.

Q. And what is the formula in general?

A. The formula in general involves comparing expected deaths in a given population by disease versus observed deaths in people exposed to the variable you are measuring. The difference between the exposed -- I mean the expected and the observed is the attributable risk due to the variable in question.

Q. What data set was used by Dr. Ravenholt in arriving at this number?

A. A number of sets of data, including lists of the number of deaths by cause of death and relative risk ratios gleaned from a variety of large prospective studies on smoking and various diseases.

Q. What data set or data sets were used, precisely?

A. Both.

Q. Which ones?

A. You mean which ones for the relative risk?

Q. Yes.

A. Again, that is all in his notes. I could give that to you. For example, for lung cancer perhaps he used even the Doll and Hill data.

Q. When you say "perhaps," you don't know, is that correct?

A. He used large protective, specific studies, and I am guessing that would be one of them.

Q. But you don't know --

A. I don't have it here, no. But I know that it's been accepted by my scientific panel.

Q. Now let me see if I can work this through.

Dr. Ravenholt didn't do any original research, epidemiological research in smoking and health, is that correct?

A. Ever in his life?

Q. In arriving at this 500,000 number, he did not do any original research, is that correct?

A. Not in the sense that he applied a standard formula for attributable risk to mortality data that is publicly available.

Q. So Dr. Ravenholt used data that had

51770 4484

been complied by other people, is that correct?

A. National health statistics, yes, for one.

Q. He then made his own calculations based upon the work that had been done by other people, is that correct?

A. He looked at the literature to see what relative risks we could attribute for bladder cancer, lung disease, heart cancer, yes.

Q. You will be offering testimony based upon your understanding of Dr. Ravenholt's analysis of work that was done by other people, is that correct?

A. I will be offering the view that my scientists, the American Council on Science and Health, when I asked the board of directors to estimate the number of premature deaths due to cigarette smoking annually in the United States using standard methods, came up with the number of 500,000.

Q. Did you personally check the calculations involved?

A. No. That is not my function. My function is to make sure that the directors and

advisers, who were so knowledgeable, reviewed this. That is my role in all these matters, to make sure that it is seen by many eyes.

Q. Did you personally check to determine whether the methodology was the most current?

A. No. I don't have to do that because I have a review panel to do that, and they did that.

Q. Did you personally check any aspect of Dr. Ravenholt's calculation?

A. I never personally check any of it because I would not want to take that responsibility on myself. Indeed, I have a panel who reviews and gives our seal of approval before we publish anything. Indeed, at this very moment --

Q. Could you identify all of the members of the panel for their cross-examination, please? Could you identify all the members of the panel, please?

A. Now?

Q. Yes.

A. No.

Q. Why not?

A. Well, because I have 320 scientists

on my board of advisers that I have to check my files to see who were involved in that particular research endeavor.

At this very moment we are in the process of doing the update to come up with a new, revised 1998 number on the number of premature deaths, so it is quite timely, and I will be working on this for the next two months. I will be even more familiar with the exact methodology as a result.

Q. So just to round out this area, you did not perform the calculation?

A. No.

Q. It was performed by someone else based upon numbers that were generated by other people and it was checked by yet other people, none of whom you can identify today, is that correct?

A. This is a very, very unfair characterization of what occurred.

Q. What part of that is incorrect?

A. It doesn't reflect the reality of what happened. I explained to you that I chose a scientist, a physician, epidemiologist to answer the question "How many people die

prematurely annually from smoking." He, being the expert in the United States who has been performing these estimates for the Surgeon General's office for at least 30 years, agreed to do so, consulted the peer-reviewed literature, derived numbers from the vital statistics of the United States, and using this most credible information yielded his numbers.

Q. To go over it again, Dr. Ravenholt used numbers that had been generated by other people, correct?

MR. MATTHEWS: Object to the form.

A. No, he generated the numbers.

Q. Based upon research that was conducted by other people and published, is that correct?

A. That is how scientists work. We don't recreate.

Q. Could you please answer my question.

Dr. Ravenholt used numbers that had been generated by other people, is that correct?

MR. MATTHEWS: Object to the form. She already answered.

A. What if I don't like your

characterization of it? Dr. Ravenholt turned to the best available research data, available in the country's most prestigious peer-review publications, and on the basis of that he proceeded with his assignment.

Q. What are the country's most prestigious peer-reviewed publications?

A. Any and all of them that were in *Index Medicus* at the time.

Q. So every peer-reviewed publication?

A. Exactly. Obviously all -- the ones we may think of, the most prestigious that we have mentioned, the Journal of the American Medical Association, New England Journal of Medicine, are not those that might get into matters of biostatistics and techniques to attributable risk. They are more esoteric topics, that he may have to go to other journals.

Q. When you mentioned the New England Journal of Medicine, the New England Journal of Medicine has compared the relative risks of various lifestyles and other factors for premature death, has it not?

A. Possibly. There's a lot of topics.

Q. What is the relative risk for premature death in this country of being poor, after controlling for obvious risk factors such as smoking and drinking?

A. I don't know.

MR. GROSSMAN: 16.

(Defendant's Exhibit 16 marked for identification)

Q. Dr. Whelan, let me hand you what has been marked for identification purposes as Whelan Exhibit No. 16, which is a lead editorial from the New England Journal of Medicine, dated July 8, 1993, signed by the executive editor of the journal, Marcia Angell.

It is entitled "Privilege and Health, What is the Connection?"

If you look at the second paragraph with me, it says, "This issue of the Journal contains several articles that touch on the connection between socioeconomic status and health. Pappas et al. report that in 1986 Americans with a yearly income of less than $9,000 had a death rate three to seven times higher (depending on race and sex) than those with a yearly income of $25,000 or more.

Americans who had not graduated from high school had a death rate two to three times higher than those who had graduated from college. This gap in mortality between the relatively advantaged and the disadvantaged is very large -- larger than the gap due to many other well-known risk factors, including cigarette smoking."

Do you have any reason to disagree with that?

A. No, but the fact that the text of this particular paragraph you just read does not indicate to me that cigarette smoking was controlled for in this.

Q. Look in the right-hand column, the first full paragraph: "Yet, despite the importance of socioeconomic status to health, no one knows quite how it operates. It is perhaps the most mysterious of the determinants of health. Income, education, and profession are not likely to influence health directly. Instead, these factors are almost certainly proxies for other variables that have a direct impact on health. But what are these variables? Most relevant studies attempt to

control for such obvious ones as cigarette smoking and heavy alcohol consumption, both of which are more frequent among the disadvantaged."

Do you see that?

A. Yes, I see.

Q. Now, after controlling for cigarette smoking, relative poverty is a greater predictor of ill health and death than smoking or other known risk factors, isn't that correct?

A. No, I would not reach that conclusion.

Q. Are you familiar with any studies that suggest the contrary?

A. I don't know any studies that suggest that poverty per se is anywhere near at the level of contributing to premature death as a variable compared to cigarette smoking. I don't know of any such --

Q. Well, doesn't this editorial refer to such studies to say that the relative risk of premature death is between three and seven?

A. It says that, but it does not say in that particular set of statistics between three

and seven that smoking was controlled for.

Q. Let me hand you what I will mark for identification purposes as Exhibit No. 17.

(Defendant's Exhibit 17 marked for identification)

Q. Dr. Whelan, I have handed you what's been marked for identification purposes as Exhibit No. 17, which is an article from the New England Journal of Medicine on the increasing disparity in mortality between socioeconomic groups in the United States by Pappas, Queen, Hadden and Fisher.

Are you familiar with any of those authors?

A. No.

Q. In this study, using the 1986 National Mortality Followback Survey, the authors found relative risks for premature death based upon socioeconomic status, is that correct?

MR. MATTHEWS: Object to the form.

A. I don't see where it is controlled for cigarette smoking, and that is an absolutely critical variable given it is a leading cause of premature death. I do not see

a table entitled comparison among poverty, mortality among poverty-level, among poor, nonsmokers versus affluent nonsmokers. I don't see that.

Q. Give me one moment. I don't have my marked copy with me. Let me see if I can find where it says it.

A. It says, "We calculated standard mortality rates, standardized according to race, sex, income and family status."

Q. I don't have the time to go through all of this now.

What is the relative risk for premature mortality from smoking?

A. I don't have an aggregate number for that. We talk about relative risks related to specific causes of death.

Q. You don't have any aggregate number for that?

A. No.

Q. What is the Surgeon General's aggregate number for that?

A. I don't know, and it would be a meaningless aggregate number. You have to talk about how long people smoke, how much they

smoke. There is no such thing as an aggregate number of smokers versus nonsmokers.

Q. Let's turn our attention to another product that you have written a great deal about in recent years.

What is Olestra?

A. Olestra is a nondigestable fat which has been developed and perfected as amines of preparing otherwise -- preparing food that would otherwise contain fat in a fat-free form. It is still a fat but it is not digested by the body, so therefore it contributes zero calories from fat when ingested.

It is now available in the form of snacks, in the form of potato chips, and it is a food additive technically, but it is really more of a food ingredient because it is such a macro-ingredient.

Q. You have issued a number of press releases regarding Olestra, correct?

A. That's correct.

Q. Who makes Olestra?

A. Only one company, Procter & Gamble.

Q. Have they ever provided your organization with money?

A. Occasionally, but they don't -- we have not gotten any money this year from them. We don't --

Q. So far you haven't gotten any from them this year. How about last year?

A. Last year we were funded.

Q. And the year before?

A. They have been giving us $12,000 a year?

Q. What inspired you to issue all these press releases regarding Olestra?

A. It inspired me because I think it is a -- I am a very fierce defender of technologies that have been researched for years and years at great cost to companies, technologies that offer choice to consumers, that make it through the arduous approval process, can contribute to enjoyment yet are still attacked by consumer -- so-called consumer advocates. I wish to come to the defense of the science regarding these products so they can be enjoyed by consumers who choose to use them.

MR. GROSSMAN: 18.

(Defendant's Exhibit 18 marked for

identification)

Q. Dr. Whelan, let me hand you what we are marking for identification purposes as Whelan Exhibit No. 18.

That is a press release that you issued on Olestra, is that correct?

A. Actually, it is not a press release, it is a little booklet from our "What's the story?" CD which answers basic questions about Olestra.

Q. Now, this was written in 1995, correct -- 1996?

A. 1996, and we have updated it.

Q. May I direct your attention to the second page in that you wrote the following: "The 'usual suspects' who routinely condemn products of food technology have declared war on Olestra -- and so have a few respected scientists. The scientists have cited two primary concerns: First, Olestra may cause gastrointestinal distress. Second, it may prevent the absorption of essential fat-soluble vitamins and 'carotenoids,' a group of nutrients that includes beta-carotene, a dietary component that some people claim offers

protection from cancer."

Do you see that?

A. Yes.

Q. Who are the respected scientists who took that position?

A. Most of the food scare topics, I take it, only involve the Ralph Nader Center for Science and Public Interest, with whom I am in regular debate in the media.

In this particular case there are one or two scientists who emerged from mainstream academia. One was Walter Willet from the Harvard School of Public Health, and the second one is George Blackman. I believe he is from the University of Minnesota.

That is why I wanted to be complete in my discussion there. I mentioned there were a few mainstream people as well.

Q. In the next page you say, "If eaten in large enough amounts, Olestra can have temporary gastrointestinal effects. In other words, high consumption can lead to softer or loose stools and flatulence in sensitive individuals."

A. Just as in the same of any kind of a

bran, very heavy bran or bean fiber diet would.
Q. Do you think there should be a warning on Olestra products to that effect?
A. I don't think so out of context, unless you are going to be labeling other foods in a similar way, but whether or not, however I feel, there is not a warning on the products now but there is an information label that the FDA mandated saying this.
Q. You opposed that FDA-mandated warning, didn't you?
A. Not particularly actively, but if anybody asked me, I would oppose it. I think it is pure common sense. I don't think you have to be labeling things in that sort.
Q. In the matter of free choice which you have commented on a good deal, you have said, have you not -- in fact, you did at a recent deposition -- that if someone after forewarning decides to jump off a 50-story building, that is his choice?
MR. MATTHEWS: Object to the form.
A. Again, that is a rather simplified way of taking a serious topic, but ultimately I was trying to explain my philosophy, is that I

51770 4499

think people are responsible for their own behavior and should be held responsible for the choices and the consequences of the choices they make once they are given full information.

And my participation in the debates on cigarettes over the years have been somewhat different from my colleagues, because I believe there would be a time when, if all the information were made available and consumers truly understand the risks they were assuming, that they should be on their own. I just don't believe we are anywhere near that at this point.

Q. Well, people don't need a warning about jumping off a 50-story building, do they? They don't need to be told what the consequences are, do they?

A. I think they're pretty apparent.

Q. And they don't have to sign a contract saying they understand what the consequences would be because they are well-known, is that correct?

A. Well, they are well-known in that case, yes.

Q. All right. Returning to Olestra:

There have been a number of additional articles on Olestra that have been sponsored by your group and in press releases regarding Olestra that have come out of your group, is that correct?

A. Yes.

Q. Over how long a period of time have you been issuing such statements regarding Olestra?

A. I would say -- it is 1998. I believe Olestra was approved in January of 1996. So -- or '95 -- the last two-and-a-half years.

Q. Now, there are studies that have been conducted here and abroad that found that volunteers who ate Olestra had different levels of certain serum components than people who did not eat Olestra, isn't that correct?

A. I think what you are referring to is that it's been shown in many studies that people who eat foods containing what we call carotenoids like beta-carotene, which include carrots, at the same meal that they eat Olestra products have a diminished absorption of beta-carotenes. That has been shown and no one disputes that.

Q. Do you think there should be a warning as to that?

A. I don't, because we don't understand how much, if any, beta-carotene we even need, other than -- I am sorry, carotenoids we need in a given day. There is no recommended daily allowance. So there is no reason to warn people that they are not getting enough when we don't know what enough is.

Q. To your knowledge, are there doctors who advise their patients to eat more vegetables to get more beta-carotene?

A. Yes, there are, but that brings up a very interesting point, that it is a scientific fact, for example, that carrots are potentially excellent sources of beta-carotene. And to follow that logic, we would have to label carrots. Because if you eat carrots raw you get no beta-carotene from them. You must cook them and mash them in order to get the beta-carotene absorbed into your system. So under that logic you would have to label everything as to how to preserve this what I call politically correct nutrient.

I don't object to labels, but only

labels out of context. We need to be consistent.

Q. When you issue a press release, do you expect people to rely upon the statements that you put in your press release?

A. Yes, I do. I hope over the years that we have developed enough credibility and authority such that the media picks up our statements, that people will look to us for a scientific point of view. I hope they do believe, or at least will take into account what we say when they are making their decisions.

Q. You're aware that individuals in this society have been advised by their doctors to cut down on dietary fat and to cut down on dietary cholesterol, is that correct?

MR. MATTHEWS: Object to the form.

A. No. I would say all knowledgeable people recommend to cut back on dietary fat, if only because it is such a dense source of calories. There are very few physicians now who emphasize cholesterol as being important.

Q. Are you aware of physicians who advise their patients, or at least some of

their patients, to cut down on dietary cholesterol?

A. Increasingly not very many, because if there is any effect of food on serum cholesterol it is from the fat, not the cholesterol.

Q. You have issued press releases, have you not, that dietary cholesterol is insignificant?

A. I have said -- we have said that dietary cholesterol plays a very minor role in most people in elevating their serum cholesterol, yes.

Q. You have said that eating foods with high dietary cholesterol is not dangerous, is that correct?

A. For most people, eating foods with high cholesterol levels, like eggs, on a regular, moderate basis, even two or three a day, is not dangerous, no.

Q. Are you suggesting that people who have been advised by their doctors to cut down on dietary cholesterol should listen to you instead of their doctors?

MR. MATTHEWS: Object to the form.

A. I have no influence on decisions people make nor am I telling them what to do. I am giving them a source of information. And perhaps they have come to believe that many physicians are not necessarily up to date on these issues and they might bring our brochure to their physician and challenge him or her.

Q. But you do expect people to rely upon your brochures and your press releases, is that correct?

A. I wouldn't say rely. I'd say to take into account in making their decision about, for example, to buy Olestra. I don't want them to rely on this. This is a source of information, and maybe they have other sources they want to consider.

MR. GROSSMAN: I am going to need two minutes.

MR. MATTHEWS: Sure.

MR. GROSSMAN: While we take this break I am going to check on the airport, which will affect our timing.

MR. MATTHEWS: No problem.

(Recess)

(Discussion off the record)

BY MR. GROSSMAN:

Q. Now, Doctor, you believe, don't you, that tobacco companies are entitled to the same protections in litigation as any other defendant in a civil action?

A. I believe that and more. I think that tobacco companies should be required to respond to the same legal needs, both in protection and litigation and in fair treatment under the law and not be given special protections.

Q. You wouldn't have any problem with a jury evaluating the American Council on Science and Health by the same standards by which you would judge tobacco companies, is that correct?

A. I believe the same standards would be applicable.

Q. And the same standards would be applicable to the various companies that provide funding for the American Council on Science and Health, is that correct?

A. Yes.

Q. Do you know of any companies that fund the American Council on Science and Health that are involved in product liability

litigation apart from pharmaceutical companies?

A. I wouldn't consider Dow a pharmaceutical company, but it is involved in litigation on breast implants.

Q. They are also involved in other consumer and product liability litigation, is that correct?

A. I don't know what is ongoing now. I know they have been in the past.

Q. Have you provided any services on their behalf in the breast implant cases?

A. Yes, I have.

Q. What have you done?

A. On their behalf, they had invited me to actually testify, though I never actually did. So, I am sorry, no, I have never done anything on their behalf.

Q. Have you written anything on breast implants?

A. We have an American Council booklet on breast implants but it is out of date.

Q. When did you write that booklet?

A. The booklet came into print two years ago this month.

Q. Was it before, after, or during the

time that you were receiving income from Dow?

A. As I mentioned, we always get $5,000 a year from Dow. The booklet cost us probably $100,000 to do, and they were not involved in funding it.

Q. Now, you said that a substantial portion of your time was involved in obtaining funding from various sources. How do you go about doing that? What do you do?

A. I travel to corporations and foundations and explain the purpose of the American Council, show them a track record of the print coverage that we get, the television appearances we make, the response of the media to our work, and the long list of distinguished scientists who put their name on our publications, and I ask them if they would like to make a contribution to the general operating budget to keep our work going.

Q. What percentage of your time do you devote to that?

A. On the average, over the last ten years, I'd say about 25 percent.

Q. How about over the last three years, same?

A. No; it's been higher.

Q. What percentage of your time do you devote to fund-raising over the last three years?

A. Maybe 35 percent, 40 percent.

Q. We were discussing Olestra a while ago. Have you discussed Olestra with the manufacturer of Olestra?

A. Yes. We have very cordial relationships with many American corporations, and the research director of Olestra often stops in and visits with me.

Q. Who is that person?

A. His name?

Q. Uh-hum.

A. His name is Dr. Chris Hassle. H-A-S-S-E-L-L.

Q. There are studies that were conducted at Frito-Lay that found that there was an oil leakage among an underwear spottage among people who were test participants in Olestra.

A. Yes. Those were very early studies and they have been the focus of many jokes among consumer advocates who were trying to make fun of Olestra. Early on, before the

molecule for Olestra was perfected, there was a so-called anal drip from it. Much -- if you consider Olestra being sort of along the line of a mineral oil, it travels right through you, and that's what happened. But the food technologists addressed the problem and solved it.

Q. And on what basis do you make that statement?

A. Because there have been subsequent studies, prior to the approval, that found no such problem or any gastrointestinal effects. Indeed, three weeks ago the Journal of the American Medical Association published a large study of movie-goers, a thousand of whom were given chips -- some Olestra, some not, some plain fat chips. And these movie-goers were followed for many weeks afterwards and didn't know which kind of chips they were eating. And their complaints were recorded. And as reported in JAMA, there were no differences between Olestra and not Olestra eaters.

Q. Now, you mentioned earlier Meir Stampfer at Harvard?

A. Actually, I didn't mention his name.

I could have, but I didn't. I mentioned his colleague, Dr. Walter Willet.

Q. Who is Willet?

A. He is an epidemiologist at the Harvard School of Public Health.

Q. He has estimated that among people who eat about a bag of Olestra potato chips each week, three times a week, that among such population there will be 1,190 excess cases of blindness and almost 6,000 cases of partial visual defects due to macular degeneration caused by decreased levels of lutein zeaxanthin and carotenoids?

A. Uh-hum.

Q. Have you undertaken any study to determine whether that is in fact correct or incorrect?

A. There is no means of studying a speculation, and that is pure speculation. And it is based on his assumption that these carotenoids play a preventive role in preventing blindness and cancer. And he is hypothesizing if you eat something that depletes your carotenoids that you are going to go blind and get cancer and heart disease.

That is his pure speculation. It is not the view of the Food and Drug Administration or the view of any other mainstream scientist that I know of.

MR. GROSSMAN: I think this is a good time for a break.

Thank very much, Doctor. We will see you at the revised scheduled time.

(Adjourned)

ELIZABETH M. WHELAN

Subscribed and sworn to before me this day of , 1998.

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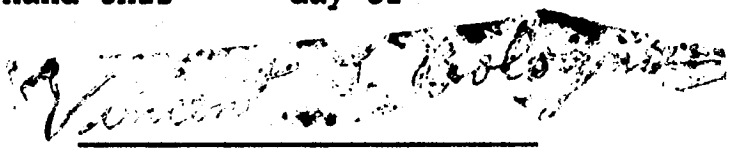
CERTIFICATE

STATE OF NEW YORK)
: ss
COUNTY OF NEW YORK)

We, Vincent J. Bologna and Joanne Mancari, Registered Merit Reporters and Notaries Public within and for the State of New York, do hereby certify: That ELIZABETH M. WHELAN, the witness whose deposition is hereinbefore set forth, was duly sworn by us and that such deposition is a true record of the testimony given by such witness.

We further certify that we are not related to any of the parties to this action by blood or marriage and that we are in no way interested in the outcome of this matter.

We further certify that neither the deponent nor a party requested a review of the transcript pursuant to Federal Rule of Civil Procedure 30(e) before the deposition was completed. In witness whereof, we have hereunto set our hand this day of 1998.



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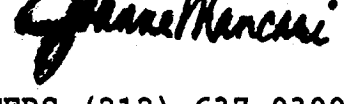
JOANNE MANCARI, RMR



INDEX OF EXAMINATION

DEFENDANT EXHIBITS FOR IDENTIFICATION